

Part-timers' deal in jeopardy

by David Jobbins

Local authority employers have refused to join with college lecturers' unions to stop attempts to subvert last year's deal on part-timers' salaries.

The two sides are still deeply divided over whether lecturers teaching at more than one establishment should have their hours aggregated to qualify for associate lecturer status from September.

The independent Advisory, Conciliation and Arbitration Service is to be called in and its report will be the subject of further negotiations. There is no question of a Burnham further education committee meeting before the local council elections on May 7, and the two sides are unlikely to get together for further negotiations until much later next month.

A threshold of 12 hours class contact was fixed for qualification for associate lecturer status - one hour more than the teachers' panel had sought - by the committee last week. But the unions were successful in winning the acceptance in principle that associate lecturers can be appointed to any grade, and

will therefore not be restricted to the lecturer pay scales.

Union officials were dismayed at what they described as a "blank refusal" by management to tackle the growing number of authorities who are cutting back part-timers' existing hours to ensure they do not qualify for associate lecturer status from September.

The employers gave no reason for their hostility to the idea of a joint statement. "This gives us very grave concern," Mr Derek Weitzel, negotiating secretary of the National Association of Teachers in Further and Higher Education, said.

"It is up to the management panel to make their members stand by an agreement just as it is for us on the staff side to make sure our members do the same. To find the management panel is not willing to take any action at all is very grave for the future of relations between teachers and their employers."

"If they will not stand by agreements they have reached it calls into question the whole nature of the negotiating machinery - particularly at a time when the Secretary of State for Education is looking at it and when we had a degree of agreement with the local authorities on what we are seeking."

"We view this failure to move as a very major setback."

The major sticking point is the employers' view that to introduce aggregation into further and higher education would infringe colleges' articles and instruments of government. They say that last October agreement on part-timers leaves local authorities with a discretionary power to appoint associate lecturers, but that it is adamant that something firmer is needed.

It points out that this difficulty does not arise with most adult education establishments, where the majority of part-time staff working substantial hours at a number of institutions are concentrated, and do not have articles and instruments of government.

A call from the teachers' panel for a reference to arbitration was unsuccessful. It was felt inappropriate at what was at issue was the detailed implementation of an existing agreement.

Swinnerton-Dyer urged to reduce London staff

by Ngaio Creguer

An urgent reduction in staff numbers at London University by natural wastage and premature retirement, is proposed by Queen Elizabeth College in its second submission to the Swinnerton-Dyer committee.

The paper, a response to the interim report of the committee on academic organisation, chaired by Sir Peter Swinnerton-Dyer, says there should be no reduction in the number of schools at London, but their roles should be clarified and sharpened.

"To reduce costs sufficiently the number of staff will have to be reduced. This could be best achieved by looking at the size of, and unit costs within, each department across the university to establish their viability and effectiveness. In the case of high unit costs departments their student: staff ratio will need to increase."

The paper argues that a reduction in the space occupied by each institution commensurate with its loss of staff is more acceptable and feasible than the closure of complete institutions. Inconvenient and costly buildings could be vacated and used for student accommodation.

The college says that the loss of income over a short time scale means that the urgency for staff reductions is greater than that indicated in the Swinnerton-Dyer document.

"London must make every effort to reduce its high unit cost. First, its university overheads amounting to some £14.5m must be severely questioned and reduced. Where there is specific to a particular group of colleges or departments they should be identified."

QEC also says that tables produced by the committee showing how London allocates its funds should be published annually. "Clearly some institutions (including our own) have historically received very low grants from the court which it is hard to justify."

Colleges with high unit costs and high reserves should also be expected to use their reserves in this time of retrenchment. Because indiscriminate natural wastage could lead to no viable departments, if there was an increase in co-operation between institutions, and more common recruitment of staff, full financial health could be achieved with a minimum impact on teaching.

"A natural consequence would be a reduction in the number of departments teaching a given subject, with a natural and evolutionary rationalisation across the whole university. Ideally, each institution would take advantage to form its activities into a more coherent whole and to become more complementary to the others."

Huddersfield poly blamed again

by Paul Flather

Accusations of financial mismanagement at Huddersfield Polytechnic are repeated in a second special audit carried out by officers of Kirklees Council.

A confidential report, which has not yet been sent to the polytechnic's directors, details a general lack of accountability, inefficient record-keeping, poor security, and an "air of mystery" surrounding the use of a polytechnic penthouse flat.

The new audit comes at a critical time for the polytechnic. Huddersfield already faces the prospect of losing accreditation from the Council for National Academic Awards if it does not produce a complete budget appraisal by June 1.

It also comes soon after Kirklees councillors discovered that the polytechnic had spent on its revenue budget by £300,000 last year. They were incensed because earlier the polytechnic claimed it faced severe hardship and even closure if extra funds were not found.

Mr Lawrence Conlon, leader of Kirklees Council, said the fact that the polytechnic was so wildly off the

mark confirmed the urgent need to examine its finances with great care.

The second audit report confirms allegations made in 1980 when the council called for staff to be disciplined for financial irregularities.

In 40 pages chief finance officer, Mr Peter Sharrum, reporting to the council's finance sub-committee, talks about a general lack of control, a lack of accountability, and non-compliance with financial rules.

The report says security and checks on the rules are lax, that the polytechnic inventories remain in a thoroughly inaccurate state, and that while there have been reforms in the last year, a lack of urgency is still apparent.

The report criticises:
● records kept for stock-taking of the timber store staff sickness and book purchasing
● the hiring out of transport, which should be "tightened up" and "watched with care" in future
● the payment of special overtime rates to staff who run summer block courses on polytechnic premises
● the use of penthouse flat built into the polytechnic complex

Kirklees originally allocated the flat in the central services for the use by the rector, Mr Kenneth Durran. The council now says it has not heard about the use of the flat in spite of inquiries since March 1979.

If the flat is not being used the councillors want to find an alternative use for it as it has aroused strong feelings among councillors and local people.

It is not clear what will happen to the report, although the council finance sub-committee is likely to discuss it first. This year Kirklees did not provide money from the rates for the polytechnic. In 1980-81 it provided £687,000.

Meanwhile a report by Sir Frank Layfield, called in as a mediator between Kirklees and the polytechnic, to comment on the audit reports and their allegations, is understood to be near completion.

A polytechnic spokesman said Huddersfield had undergone last year because fees and income had arrived unexpectedly quickly. He declined to comment on the audit. A special committee with nine members is currently reviewing the structure and work of the polytechnic's academic board.

Medical centre struggles to get out of the red

by Robin McKie
Science correspondent

A delegation of MPs and deans of postgraduate medical institutes is to meet under secretary for higher education Dr Rhodes Boyson and Dr Gerard Vaughan, the health minister, next week in an attempt to solve the centres' deepening financial crisis.

Recent Government cuts in university cash and increases in overseas student fees mean that the 13 institutes, all members of the British Postgraduate Medical Federation, as well as the Royal Postgraduate Medical School and the London School of Hygiene and Tropical Medicine, will be £3.8m in the red this year.

At a recent meeting with Education Secretary Mr Mark Carlisle and Dr Vaughan, the vice-chancellor of London University, Lord Annan, warned that the problem would be even more severe next year. At particular risk are the larger institutes such as the child health, cardiothoracic and psychiatry centres.

Now the institute deans are to press Dr Boyson and Dr Vaughan about

special aid to save the institutes from closures and large-scale redundancies, although fears are now growing that this will be left to the financially beleaguered University Grants Committee.

An early-day motion is also to be put down at the House of Commons by MPs urging the Department of Health and Social Security and the Department of Education and Science to "devise methods of funding the institutes so that regardless of whether they are independent or members of joint medical schools, they can retain their role as national centres for teaching and research".

The Association of University Teachers has called on its members to press their MPs to support the motion and has also urged that institute deans delay any action or cuts until results of their campaign are known.

A final decision about the institutes' future will not be made by the university until June or July when reports are presented by several other special committees which are now investigating the structure of the city's medical education system.



Mr Younger: change of heart?

Confusion over Scots college

Confusion has followed an announcement by the Scottish Secretary Mr George Younger that Hamilton College of Education, due to be closed in June, is to be kept open for another year.

This is being hailed in some quarters as a change of heart by Mr Younger. The Hamilton Action Group sees it as a prelude to looking at the possibility of a merger between Hamilton and Jordanhill colleges.

However, the announcement, in a written Commons reply, seems unequivocal. Mr Younger says that having considered representations from interested bodies, he has concluded that his decision to close Hamilton and Jordanhill colleges, and merge Craiglockhart with another institution, was well founded and should be implemented as soon as practicable.

He proposes to announce regulations within the next two months which will dissolve Hamilton in June and provide for its entire transfer to Jordanhill College in Glasgow. However, Hamilton's site will be retained for a further year "in order to permit students to complete their studies, but the building will then be sold and all students transferred to Jordanhill."

There is strong speculation that Scottish Education Department officials have advised Mr Younger that it would be impossible to achieve a transfer this June.

But Mr Younger's statement does not make any similar provision for Hamilton Park, merely expressing the hope that the governors will soon begin discussions with him on implementing a closure plan.

GCE exam candidates turned away

Colleges and schools are turning away thousands of adults who want to sit GCE exams as external candidates, a report published this week reveals.

Every year up to 15,000 correspondence and tutorial college students have difficulty in persuading an examination centre to accept them. A further 2,000 out of the 30,000 adult external candidates fail to find one at all, shows the survey conducted by Open University research officer Linda Butler for the Advisory Council for Adult and Continuing Education.

The inquiry was prompted by widespread complaints about the difficulties experienced by adults in an exam system designed primarily for school and further education students. Adults studying in an institution which is not a registered examining centre have to find one for themselves.

Schools and colleges are reluctant to admit external candidates for GCE exams because of the extra administration or because they may want to sit an exam for a course which is not taught internally or there is a lack of space and constant uncertainty about numbers.

One administrator in a college examining centre said: "We used to take the odd external out of sympathy but found it was snowballing so we had to stop it."

External students reported that they often had to travel miles from home to find an examining centre. One student who suffered real frustration in the search for a centre said: "I've spent many wasted hours and a fortune on the telephone. I've scrapped the whole idea now. Why should it be so difficult? After all, they are supposed to be public examinations."

The report recommends that local education authorities should endeavour to encourage schools and colleges to withdraw their no admission policy for external candidates. A rotating system could be introduced to share the burden between institutions and a new differential fee system might help cover the extra administration costs.

Adult external candidates for GCE examinations by Linda Butler, price £2.50 from the Advisory Council for Adult and Continuing Education, 19b De Montfort Street, Leicester.

Student loans system put on ice

The Government last week indefinitely postponed its plan to introduce a system of student loans after hitting with various schemes for more than 12 months.

Mr Mark Carlisle, Secretary of State for Education, said in a Commons reply that at present economic circumstances it was not possible to find the extra money needed to finance any loan scheme.

The Government was convinced it was feasible to devise a loan scheme, however, and there would be considerable merit in a system involving a mixture of loans and grants, he said. The Treasury clearly will not allow the Department of Education to bring an extra bill of at least £100m on the loans can be used to replace personal contributions to grants and discretionary awards.

The postponement marks a major setback for Conservative plans to reform education. Dr Rhodes Boyson under secretary for higher education spent two weeks last autumn looking at the American loan system and the Government had promised a full consultative paper on loans.

The National Union of Students and Labour and Liberal opponents of student loans claim the decision is a victory for good sense.

NEXT WEEK

Philip Thody on why language teaching is so hard
Survey of polytechnic finances
The benefits of overseas students
Academic freedom in Israel
Interview with Sir Roy Shaw
Tom Stonier on the "information economy"
New books in European studies

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Henry, formerly known as Har-em-Ken-Esi, who died, aged about 60, 3,000 years ago in the 21st Egyptian dynasty, is unwrapped and dissected by members of Bristol University anatomy department and the city museum archaeology department. He is only the third mummy to have been unwrapped in Britain and the first from an archaeological rather than medical standpoint. He is making his debut publicly, on closed circuit television. Henry has been in Bristol museum since 1907 and is being unwrapped because he seems to be disintegrating under attack from a fungus.

Academics criticize overseas student policy

by John O'Leary

New criticism of Britain and other countries which have introduced full-cost fees for overseas students is contained in a report likely to go to the Commonwealth prime ministers' conference later in the year.

The report, which has been submitted to Mr Shridath Ramphal, secretary-general of the Commonwealth, was drawn up by a consultative group of eminent academics and administrators meeting in London last week.

Although it will not single out Britain, it is understood to include a plea for fees for all students to be fixed at a considerably less than full-cost. Members of the group from developing nations emphasised the strong feeling the British policy had inspired, claiming official views already reaching the Commonwealth Secretariat.

The report will be circulated to governments shortly and, although it contains no specific recommendation for wider discussion, is likely to be on the agenda of the Commonwealth prime ministers' conference in Melbourne in September.

Among the proposals understood to be included is the expansion of bursary and fee support programmes to enable students from poorer countries to afford new fee levels. Until fees are reduced, the group wants to promote reciprocal arrangements for student exchanges and to give priority to students of high quality and those whose work will aid development.

They also advocate the expansion of the Commonwealth Fellowship and Scholarship Plan, extending eligibility to undergraduates, where no higher education facilities exist in their home countries. The report will support the establishment of new Commonwealth higher education programmes and suggest the establishment of a standing

All is not gloom in the polys says survey

by Peter Scott

Polytechnics are in the middle of a great leap forward in staff productivity, according to a special survey of their present financial condition that has been conducted by *The Times*.

This survey shows that most polytechnics have already made considerable progress towards tighter student ratios (SSRs) and further substantial improvements are planned. In the 13 polytechnics which replied to *The Times*'s questions, almost half the average SSR last year was 8.67:1. In the present academic year the ratio is 9.3 and next year it will rise again to 9.8.

The survey also casts doubt on a second popular myth about the polytechnics, that they are finding it increasingly difficult to recruit students. It reveals that this year the 13 polytechnics recruited 57,587 full-time-equivalent students compared with 54,954 in 1979/80, an increase of 4.8 per cent.

But the number of full-time undergraduate students increased at a faster rate, more than 6 per cent, but the stagnation and in a few cases actual decline in the number of part-timers pulled the FTE total down.

The result is that in a typical case, Kingston, 519 staff taught 4,587 full-time equivalent students in 1979/80, while in the present year 474, or 45 fewer staff, are teaching 4,610 students.

A third important finding of the survey is that some local authorities, pre-eminently the Inner London Education Authority and some northern councils, are still making substantial extra payments to their polytechnics over and above the budget allocations made by the Government under the capped pool. In the case of Sheffield City Polytechnic this topping up was between £1.5m and £2.5m.

Despite this, most polytechnics have had to live within very tight budgets indeed this year. In every case, except one (Trent), their income was far below what would have been required for stand-still budgets just sufficient to cover existing commitments. Preston, for example, needed an increase of 15.8 per cent but only received 9 per cent. Teesside needed 8 per cent and only got 1 per cent extra.

The gap between commitments and income has been bridged by a mixture of higher productivity of academic staff, "topping up" by local authorities, and a higher mortality rate among part-time and post-experience courses which are more labour intensive than full-time undergraduate courses.

No serious attempt has been made by the Department of Education and Science, the survey indicates, to match the promise of "level funding" made to the universities and so to continue the could on back page

Danger from governments

from Peter Davitt

Government policy has replaced student militancy as the main threat to British universities in the 1980s, an international conference was told in Lisbon this week.

Mr David Martin, professor of sociology at the London School of Economics, told more than 100 academics from 21 countries that Britain's Conservative government seemed dedicated to increasing state control.

"Under a conservative government British students may sink into a mean and provincial mediocrity, controlled by centralising state power in the name of ideological *faisla faire*. Ironically for those of us who opposed student anarchy our critique of the 1960s has come back on page 9

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"Stop-go policies have burdened us too long. There will be no effective solution unless there is a sound framework for the economic vitality of the country. Improving the mismatch between education and employment is part of the process of economic growth, recovery and social evolution—the issues are highly inter-connected," he said.

by David Jobbins

a fully independent inquiry, but the



Finally, industry carried the greatest responsibility for effectively business and manpower planning. "In order to ensure that the human implications of investment and technological decisions were thought through, it could set a constructive example in organization and job design resulting from changes in both high and low level technology.

"Indeed it has become stronger as a result of the possibility of almost some of the students likely to be displaced in Britain following the expenditure cuts there."

There should also be a closer link with the University Grants Committee (which now advises the Department of Education in Northern Ireland) and more liaison with the mainland.

by Olga Wojtas
Scottish Correspondent

The underpinning of the private sector by university research and development is no less essential, providing that private industry and commerce, said the resolution carried by congress at Rutherford said.

by Robin McKie
Science Correspondent

Certain sectors suffered particularly serious losses among young graduate recruits. Computing, manufacturing and engineering lost two in three graduates after five years, while at the



an 11 per cent increase in prices 1981-82 and 1982-83. The assumption for pay and price increases for the limits for 1982-83 would not be decided until later this year but adjustments would be made to the 1981-82 accordingly.

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Cash in on surplus says Boyson

by Patricia Santinelli

Local authorities should immediately take advantage of the increased number of newly qualified teachers for shortage subjects by extending and improving teaching provision, Dr Rhodus Boyson, junior education minister urged this week.

He told an audience of educationists, industrialists and trade unionists at a DES regional meeting in Harrow: "After several lean years the numbers recruited to teacher training in shortage subjects has improved dramatically and the opportunity to improve and extend provision will be better this summer and in the following years than it has been for a long time."

Dr Boyson explained that enrolments for the Postgraduate Certificate of Education in mathematics, physics

and chemistry for autumn 1980 had been 45 per cent up on 1979 and these students would be qualified this summer.

Latest figures confirm that this trend is continuing. Last week they showed that applications for the PGCE were up by nearly 27 per cent over last year, with an increase of nearly 40 per cent in maths and physics and around 25 per cent in chemistry.

Dr Boyson urged local authorities not to forego the opportunity presented by such an increase in spite of the cuts in educational expenditure which made it difficult to sustain recruitment at desirable levels.

"I suggest this is a case which calls for a clear view of educational priorities. The need for these teachers unques-

tionably exists as does the means to help satisfy that need," he said. "It would be unfortunate if the long term benefits to be gained from recruiting these teachers were lost through a preference for expediency rather than educational efficiency in dealing with the short term problem."

He added that figures for January 1981 showed a sharp decline in unfilled vacancies for secondary teachers both generally and in the shortage subjects which could only be welcomed. But he warned of concealed shortages which might contribute towards fewer vacancies. In some schools shortage subjects might be inadequately timetabled, in others they might be taught by teachers who were inadequately qualified.

Mr Peter Boulter told the diamond jubilee conference of the National Institute of Adult Education in Hull that a change in the 1944 Education Act was vital to the survival of adult education.

Proposals by local authorities to suspend adult education were now almost commonplace. "While many of them fall short of suspension they are sufficient to cripple or maim the service," he warned.

Yet it was quite understandable that adult education should suffer, Mr Boulter claimed. Local education authorities were being forced to cope with a hopelessly inadequate allow-

Snub for ministers over Natfhe annual conference

In a major break with established practice, no Government minister has been invited to address the college lecturers' union annual conference later this month.

The National Association of Teachers in Further and Higher Education is rather coy about its snub of Mr Mark Carlisle, Secretary of State for Education, or any of his junior ministers, but it is clear that discontent with Government education policies is the main reason.

Last year union leaders suffered a passing embarrassment when about 120 delegates walked out on Mr Neil Macfarlane, under-secretary for education, and others ostentatiously read their newspapers during his speech, when a move to rescind his invitation failed.

The pattern of a ministerial speech was set by Labour Education Secretary Mr Fred Mulley in 1976, and continued unbroken since for Mr Oakes was invited in 1978, and Mr Carlisle spoke in 1979.

Mr Norman Willis, deputy general secretary of the TUC, has been invited to speak at the president's dinner.

"There is no specific reason," Natfhe spokeswoman said. "We decided that this year we would have a guest speaker."

The National Union of Teachers decided not to invite a Government speaker to its annual conference which it discovered that Mr Carlisle would be in Mexico over Easter and only five ministers were available.

Bosanquet launches fund 'Council duty' urged in adult sector

by Charlotte Barry

Former newspaperer Reginald Bosanquet launched an appeal for £200,000 to build a new hall of residence on his installation this week as rector of Glasgow University.

Nearly 1,300 of the university's 8,000 students lived beyond a reasonable travelling distance from their place of work and he had been told they could pay up to £25 a week for a room in the city.

The appeal, said Mr Bosanquet, was aimed at everyone concerned with the future of one of the greatest universities in the country, and everyone concerned about the education of the next generation. If all Glasgow's students could persuade someone to contribute £25, that would raise the £200,000, he said.

Mr Bosanquet condemned the government's "lamentable, shortsighted and dishonourable decision to cut university grants by £230 in defiance of the pledges they had already given."

This was not a government U-turn, commented Mr Bosanquet, but government by spaghetti junction. More than one university was faced with bankruptcy and closure, and all were faced with the prospect of amalgamating minority studies and the loss of overseas students.

"This country is faced with the need for highly trained people in the twentieth century. At this rate it won't have them," said Mr Bosanquet.



Reginald Bosanquet: £200,000 appeal

He added that Glasgow's principal, Dr Alwyn Williams, had told him that if government was to destroy the universities, they would fight back. But there was at least a faint light that the Government was being shown the folly of its ways, and that the prime minister was becoming aware of the dangers of the fall-off in overseas students.

Cash injection for university medical unit

£200,000 has been given to Manchester University's department of geriatric medicine by Gelyg Pharmaceuticals to provide a further four years support for the research unit there.

The unit, based at the University Hospital of South Manchester under the direction of Professor John Brocklehurst, professor of geriatric medicine, is one of only three in Britain devoted to research into fundamental processes of aging.

The grant means that the unit, established in 1974 and named after Gelyg Pharmaceuticals, can continue its research into investigations of sociological and biological processes involved in aging.

Professor Brocklehurst said the unit was also concerned with a number of other projects - for instance the rehabilitation problems facing old people leaving hospitals to go back into the community. In general the unit concentrates on improving the quality of life and general health of people reaching old age.

"I am very pleased - and relieved - that Gelyg have managed to continue their support to enable us to push ahead with our research," he added. "After all, we are all subject to the process of growing old and coping with the problems it might bring, so we certainly hope our work will ultimately benefit a lot of people."

Poly backs plant plan

Teesside Polytechnic is supporting a bid by its local authority Cleveland Council to attract a major £30m manufacturing plant to the area from Nissan, a leading Japanese motor company.

The polytechnic has sent a dossier to Nissan outlining the education resources which it says are at the disposal of the Japanese company if it moves to Teesside.

A team of Nissan representatives toured the area last week and inspected the two sites at Eaglescliffe and Ingleby Barwick which are on offer from Cleveland Council. Nissan, which makes Datsun cars, wants 800 acres of green field site.

Dr Michael Longfield, the director of Teesside, said he was sure the polytechnic could play an important role in enhancing the portfolio of the council in helping to land the highly competitive contract.

The dossier stresses that Teesside is the forefront of academic work in computer sciences, which could prove vital for training staff to work in the new plant. During the last two years £100,000 has been invested in computer graphics work. The computer centre has 40 staff.

The dossier also points out the high number of degrees and diplomas and which courses for training staff and the role played by a full-time industrial liaison officer between the polytechnic and local industry.

Nissan are completing the feasibility study on a number of possible sites in North East England and Wales, and possibly in Europe as well. The plant is likely to create 5,000 new jobs and boost regional suppliers.

Price suggests single post-school policy

A new higher education strategy should be introduced to encompass the whole of post-school education, Labour MP Mr Christopher Price told the conference.

This would recognize the right of adults to education and training, so they ceased to be voluntary activities, said Mr Price, who is also chairman of the Commons Select Committee on higher education.

It would also lead to greater equity for adults in society as it would include a redistribution of resources within the higher education system, he suggested.

Mr Price said: "Never has education in this country gone so long without any action on education. Since 1944 because of the lack of willpower of the Government and lack of power and authority of ministers of education, we haven't had any Education Act which lays down what adults have a right to after they have left the compulsory system."

The definition of post-school education was out of date and adult education had been squeezed out. "Higher education must be redefined so that adult education is part of post-school education and not a voluntary activity," he said.

Adult education was going to be important in the 1980s for a number of reasons, Mr Price stressed. Structural unemployment, technical change and incidents like the Brixton riots were all going to have to be tackled by the service.

Classes should not just be teaching car maintenance but also how to set up car maintenance co-operatives. Computer training should not just be given in the schools, but to adults outside as well.

Incidents like the Brixton riots could be prevented by a sufficiently responsive and flexible adult education system helped by Government money.

Mr Price claimed that the adult literacy campaign in the 1970s, Mr Price claimed.

"We must take steps to make us qualified people useful to society so we want social cohesion as in the 1980s to break down completely," he said. The qualifications barrier should be removed so more people could make a contribution to the post-school adult education service.

Mr Price said that a more positive attitude to adult education was needed not simply as a leisure activity but contributing to the individual and society.

"But as long as you have a Government and local education authorities that take the present ideological attitude that education is a public expenditure I can't see much hope of progress in adult education in the 1980s," he warned.

Professor Griliches said he could attribute the motivation for such selective cut only to vindictiveness, ignorance and arrogance. Vindictiveness, because of the more extreme new economic proposals have found little support among established scientists, because they have not been perceived as being captives of liberal left-wing ideologies. Ignorance, because this is just not so.

"It is ironic and sad that whoever came up with these cuts does not even

things better and not worse for adult education," he said.

The Government should be made to say firmly and clearly what the duties of local authorities should be, to whom they apply and when they are required to be carried out.

"If any changes in the 1944 Act were to weaken its standing, the backbone of survival, let alone progress in the 1980s, will become remote," he said.

A vigorous and enterprising adult continuing education service was vital in the 1980s. This required a massive change of heart on the part of society, as adult education was patronized or insulted by those in power.

Mr Boulter said it would be a "marvellous innovation" if adult education was treated as important to law and order by politicians.

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North American news

Cuts cause social scientists to panic

Social scientists knew as soon as Ronald Reagan was elected president that they faced a battle to hold on to the hundreds of millions of dollars worth of research support they receive from the US government. The administration's revised 1982 budget, issued in March, confirmed their fears.

For the first time in the National Science Foundation's programmes in the behavioural, social and economic sciences.

As social science associations have examined the budget in more detail over the last few weeks, their dismay has increased for the White House Office of Management and Budget seems to have systematically snuffed out virtually every pocket of financial support for social research in the federal government (at least agencies and departments spend money on it) and put each only on the hit list.

Some politically aware social scientists are reacting with what observers have called near panic or even paranoia. They believe themselves to be the deliberate target of an anti-intellectual conservative ideology that equates social science with big government and social engineering, and sees almost all its practitioners as liberals at best - and crypto-communists at worst.

Administration spokesmen deny that they have embarked on a vindictive political crusade against social research. They talk instead, in slightly regretful tones, of the "low priority" of the social sciences at a time when non-military federal expenditure must be cut drastically for the sake of the country's economic health.

However President Reagan still has not appointed a science adviser to oversee his administration's research policies, and there is no one in the White House who can really explain what the government is trying to achieve in this area. Officials in the Office of Management and Budget say they have let the hard sciences off with little or no cuts because the long-term future of American industry depends on basic research in the natural sciences and engineering; they claim to have axed social research, with reluctance, not relish, because it contributes little apart from intellectual satisfaction - which, according to the Reaganite philosophy, ought to be supported from non-government sources.

This sort of reasoning infuriates social scientists. Their anger has been expressed most eloquently by Zvi Griliches, chairman of the economics department at Harvard University, who told the House of Representatives subcommittee on science research and technology: "No evidence has been presented that the best economic research projects are significantly less valuable scientifically and socially than the marginal projects in biology, mathematics or physics." He reminded the Congressmen of a study showing that the National Science Foundation funded 60 per cent of grant requests in the physical sciences but only 30 per cent in the social sciences.

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The White House has singled out for pruning every pocket of social research. Clive Cookson reports.

recognize that most of the recent 'conservative' ideas in economics - the importance of 'rational expectations' and the impotence of conventional macro-economic policy, the disincentive effects of various income-support programmes, the magnitude of the regulatory burden, and the arguments for deregulation - all originated in or were provided with quantitative backing by NSF supported studies.

"And arrogance, in the sense that those suggesting these cuts do not seem to want to know what good economic policy can or should be," Prof Griliches told the subcommittee. They do not need more research, they know the answers. The country is embarking on one of the largest macro-economic experiments in our history, with very little research support for it, and they do not even want to know how to measure its effect, how it is doing and what its consequences might be!

No one knows how much Washington really spends on the social sciences, and estimates of the total effect of President Reagan's cuts vary wildly. An article in the *Wall Street Journal* claimed that, if the administration's 1982 budget were to go through, Congress unaltered, federal expenditure on "social research" would drop from \$1 billion to \$200m. Other sources, using a tighter definition of the field, calculate that the government spends about \$200m on research in the social sciences now and would lose about half of that under the Reagan proposals.

Willis Shapley of the American Association for the Advancement of Science, who is one of Washington's most experienced science budget analysts, declined to give even a guesstimate of the overall figure.

The uncertainty is not only a question of definition, however. The NSF is perfectly open about its social science programmes, but other federal agencies are not. Mr Shapley points out that government departments have known from the beginning that social science was a politically vulnerable field and they therefore took care to tuck their support for social research into other programmes and not leave it exposed.

Such subterfuge may have temporarily confused President Reagan's budget-cutters but it did not throw them right off the scent. They knew for example that the Alcohol, Drug Abuse and Mental Health Administration was a hotbed of support for social science research (it has traditionally funded research into the social conditions that lead to mental illness and drug or alcohol abuse) and OMB originally wanted to cut its \$250m annual research budget by 40 per cent. However officials at the agency managed to convince the White House that only 15 per cent of its research should be counted as 'social', and it has therefore had to take only a 15 per cent budget cut.

Richard Schweiker, the secretary of health and human services, has ordered ADAMHA to eliminate all funding of social science and stick entirely to 'biomedical' programmes. Officials are now working desperately to define 'social' but it is already clear that studies of ageing, crime, rape, divorce, family life and other social issues will no longer be funded unless they have a clear, direct connection with the prevention or treatment of

mental disorders or alcohol or drug abuse.

One important source of social research funds that is targeted for elimination is the Office of Juvenile Justice and Delinquency Prevention in the Department of Justice. The National Institute of Education, the prime supporter of educational research, is to lose nearly a quarter of its \$74m budget and the National Endowment for the Humanities, which supports qualitative and humanistic aspects of the social sciences, has been asked to take a 50 per cent cut.

The only hope of new funds lies in the Department of Defense. The Pentagon will receive a huge budget increase in 1982 but has not yet decided whether to spend any of it on 'people-related' research (the department's term for social and behavioural studies).

The social sciences lobby has now geared itself up to fight the Reaganite cuts. Hundreds of prominent social scientists, including some sympathetic to the administration's overall policies, have been telling Congress and the media how seriously their disciplines will be damaged by the disproportionately large sacrifices they have been asked to make.

For example, several economists whose work underlines the administration's fiscal policies, such as Allan Meltzer of Carnegie-Mellon University and Robert Lucas of the University of Chicago, point out that many leading "supply-side" and monetarist ideas were developed by academics with government funds. (The only one of the nine American winners of the Nobel prize for economics who refused to sign a protest letter against the cuts was Milton Friedman, who opposes government support for any research.)

Democratic Senator Pat Moynihan, the former Harvard sociologist who is now well-known for his neoconservative views, said that while most social scientists are political liberals their main findings are rather conservative. The Reagan administration's budget seemed to be based on a belief that "the economic truth has been revealed to us and we can close down that inquiry. It's just appalling," he said.

With the help of Senator Moynihan and his Democratic colleagues in Congress, the social scientists will probably be able to blunt the impact of the Reagan axe. But many observers believe their lobbying would not be so desperate today if they had made more of an effort in the past to challenge the large band of American politicians who have taken cheap shots at the social sciences.

Science policy writer Dan Greenberg called the Reagan budget "plain and simple Proxmireism come home to roost" - referring to William Proxmire, the senator from Wisconsin whose monthly "Golden Fleece Award" has mocked scores of social research grants as a scandalous waste of taxpayers' money. "After years of Congressional ridicule of social and behavioural research," by Proxmire and various legislative clones, all cheered on by mindless press reports - the political atmosphere has been rendered congenial for yahoo sentiments," Mr Greenberg believes.

The Reagan administration claims that worthwhile social research will not die if federal support is withdrawn, because 'private' corporations and foundations will step in to fill the gap. Unfortunately spokesmen for these non-governmental sources say unambiguously that they cannot possibly make up for the loss of federal dollars.

Among the issues which the FTC

College entrance exam fails fair trading test

The Federal Trade Commission is closing its controversial six-year investigation into the fairness of college entrance tests, but has asked the Education Department to review the issues raised by its reports.

The final FTC report concluded that performance on the Scholastic Aptitude Test which is taken by a million college entrance candidates a year, can be improved by short-term coaching.

The commission found that intensive coaching could raise scores on both the mathematics and verbal sections of the SAT by 25 points (each part is scored on a scale from 200 to 800).

The FTC said the Educational Testing Service, which constructs the SAT, and the College Entrance Examination Board, which administers it, were still not fully disclosing the potential benefits of coaching for the test. But commission conceded that both organizations were now being more open about the effects of coaching than they had in the past, when they maintained that intensive last-minute preparation

for the test was useless. The SAT is supposed to measure a student's aptitude for future undergraduate work.

"As a law enforcement agency charged with protecting the public from unfair and deceptive practices, the Federal Trade Commission has concentrated its efforts on assuring that organizations involved in the standardized testing industry make full and fair disclosure regarding the coaching issue," the commission's final report said. "The educational policy questions raised by the FTC's investigation into the coaching issue are ones which should be addressed by those with the mandate and greater expertise in this important area."

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How it pays to be an engineer

The gulf in employment prospects that separates graduates in engineering and technical subjects from those in the liberal arts and humanities continues to widen according to the latest recruitment survey by the College Placement Council. Engineers, who make up just 1.7 per cent of the 1.2 million students receiving bachelors degrees this summer, have got 63 per cent of the job offers reported so far.

And their starting salaries are racing ahead too. Petroleum engineers, who are top of the salary table again in 1981, are being offered an average \$26,244 a year, 10.1 per cent up on 1980. They are followed by chemical engineers with an average \$24,276 - 12.3 per

Overseas news

Change in student make-up

from Geoff Maslin

MELBOURNE There has been a dramatic decline in the proportion of Australian students proceeding direct from school to higher education. Between 1974 and 1980 the proportion of school-leavers going on to university or college of advanced education courses fell by nearly 20 per cent. The reduction represents a rapid and substantial reversal of the trend towards greater participation of young Australians in higher education which had been going on for 20 years.

Altogether, some 9,000 students who might have been expected to enter a college or university last year failed to do so. Instead, they have left school to take up jobs and in the process deprived others of school-leavers—who would not have gone into tertiary education—of work.

The decline in the number of young students has been offset by an increase in enrolments of older people entering higher education, but is still causing considerable concern. A recent report by the Tertiary Education Commission claims that several factors have contributed to the reduced demand from young people for higher education. One of the more important is the fall off in the availability of financial support for full-time study.

For most students, the report states, full-time study involves continuing financial dependence on their families or acceptance of means tested allowances. But because these allowances are means tested on parental incomes

which have been rising steadily since 1975, fewer students are now eligible for them.

The TEC report says that in 1980 fewer than half of all full-time students in universities and CAs were getting financial assistance and 80 per cent of what was available was means-tested. At the same time government departments and private industry have cut back on the scholarships or cadships they once offered.

These changes, the commission says, are likely to have had a significant effect on the willingness of able school leavers to undertake further full-time study. Another factor has been changes in the availability of jobs for highly qualified people. The disappearance or shortages in most fields for graduate employees has caused many young people to think twice about going on to higher education, the commission claims. And because they are well qualified secondary leavers, they find it easier than others to get work, with serious consequences for those less able.

Meanwhile, at the top end of universities, the shortage of students doing doctoral degrees has been described by two senior academics as a crisis for research. Professor Noel Svensson and Professor David Trimm, both engineers at the University of New South Wales, blame the shortage on the low level of finance available from the commonwealth government. Post-graduate doctoral students receive about A\$4,600 a year if they win a

commonwealth award. In contrast, the starting salaries of engineering and applied science graduates who get jobs in industry is A\$14,000 or more.

According to Professor Trimm, an assessment of a PhD programme showed that a student could now expect to lose about A\$20,000 over the life of his career as a result of taking a PhD. The gross disparity and the resultant lack of PhD students was having a dual effect on research: academics were not able to be as productive as they could be, because of a shortage of students to help them, and the number of research areas was greater than could be tackled.

Professor Trimm, a chemical engineer, said the shortage of graduates and the expansion of the chemical industry in Australia meant there was little hope of attracting Australian students into PhD programmes unless there was an increase in the level of the commonwealth award.

One alternative was to "top up" the award to say A\$8,000 with grants from industry. Another would be to encourage industry to send staff into universities for one-year masters programmes in a relevant area at full salary, as is the case in America.

The comments by the New South Wales academics follow warnings by a Monash electrical engineer last year. Professor Lance Enderby said Australia was facing a 35 per cent decline in the number of engineers graduating in Australia in the next three years. This would undermine Australia's ability to

Court decides on 30 per cent pass mark for Untouchables

from A. S. Abraham

BOMBAY

Another blow has been struck at official policy of reserving seats in educational institutions for Untouchables (*Harjans*) and tribal candidates who are required to score lower minimum qualifying marks than those stipulated for aspirants competing for unreserved places.

The high court of Madhya Pradesh state in central India has, at the request of a student petitioner, stayed the operation of the provincial government's recent order laying down that *Harjans* candidates need get only 30 per cent of the total marks at the pre-medical test to be admitted to the first year of the MBBS course. Tribal candidates don't have to score more than 20 per cent of the total marks.

"A general category" student, who had got 51 per cent of the total marks but was denied admission, contended before the court that the provincial government's order violated an earlier ruling by the high court in November last year in a similar case.

The court had then drawn attention to regulations framed by the Indian Medical Council (the professional monitoring body for medical education in India) which laid down that protected candidates must get at least 40 per cent of the total marks to qualify for admission to the MBBS course. These rules, the court had held at the time, had the force of law and were

binding on the provincial government. The petitioner in the present case argued that the government's order was illegal in the light of the court's earlier judgment. The order agreed and ordered the government to wait for its final decision.

The biggest blow-up over reservations has been in Gujarat where qualifications for protected candidates seeking admission to postgraduate medical courses. Since then they are only a few seats available in specialized postgraduate disciplines in pathology, reservations there mean, as they did in Gujarat, that students passing the MBBS examination with among the highest marks scored in that year are kept out of these fields.

After months of state-wide clashing between upper-caste Hindus and Untouchables, the protesting reservationist doctors in Gujarat finally called off their state in a change for official commitments to provide more seats, higher stipends and better facilities. They did succeed in getting reservations at the graduate level abolished altogether (the main aim of their prolonged agitation), but they have won one or two significant concessions which will limit the damage to professional standards and to the meritocratic ideal that they believe reservations as entered so far have done.

University strengthens science links with new building

Hungary's oldest surviving higher educational institution, the Eotvos Lorand University of Budapest, is to have a new science building that will combine the 44 existing science "chairs" into four large departments—physics, chemistry, biology and earth sciences. This idea was widely discussed some two years ago in a press debate organized by the monthly *Magyar Tudomány* on the future of Hungarian universities.

The Ministry of Education and Culture stresses, however, that the need for such a building was recognized in official circles long before the debate took shape—claim which the academics are willing to concede them, since the government is prepared to finance the building at a time when its whole budget is being drastically curtailed.

The university, which dates from a foundation of 1635 at Nagyszombat (now Trnava, in Czechoslovakia) has a long association with science. Even before the transfer to Buda, it had acquired an observatory and a faculty of medicine, while the *Ratio Educationis*—the educational law of 1777 which made the transfer necessary—established chairs of agronomy and applied mathematics, and stipulated the need for a natural history collection, collections of physical and mechanical apparatus, and a site for agricultural experiments.

Yet the faculty of science itself only became independent from that of philosophy in 1849; while in the following year, the new science orientation was stressed by renaming the university in honour of Dr Lorand Eotvos, a former rector of the university, and a physicist

The polytechnic end of the telescope

BRIEFING

Peter Scott reports on the results of a special THES survey on funding

Buooyancy and bleakness are the contradictory keynotes of polytechnic finances in the spring of 1981, according to a special survey conducted by *The Times Higher Education Supplement*.

Buooyancy—particularly in terms of the very healthy demand from students for polytechnic courses which this survey reveals and to a lesser extent of the very considerable progress that most polytechnics have made towards a more productive use of academic staff (incidentally without the threat of compulsory redundancies looming quite as large as many scare stories have suggested).

Bleakness—in terms of budgets that are plainly inadequate even to cover existing commitments, of still substantial "topping up" by local authorities which will become increasingly difficult under Mr Heseltine's harsher support grant regime, of the substantial but one hopes not irreversible decline in the number of overseas students.

A short questionnaire was sent to the directors of the 30 polytechnics. Thirteen replied, several enclosing extra information and comments. The detailed reports of the answers to each

question appear below.

The main conclusions of the survey were:

- Polytechnic budgets have been cut far below the level necessary to meet existing commitments and there has been no serious attempt on the part of the Government to stick to a policy of even-handedness between the university and the non-university sectors.
- Many local authorities, particularly in inner London and some northern councils, still make substantial contributions to polytechnic budgets over and above the allocations made in the pool.
- The number of students enrolled in polytechnics continues to rise despite talk of a declining age participation rate nationally. However the increase has been in full-time and postgraduate courses; part-time and undergraduate numbers have tended to stagnate.
- All polytechnics have registered substantial improvements in staff productivity. But any further attempts by Government to increase the pace will inevitably lead to compulsory redundancies.

The mood in the polytechnics appears to be one of dogged determination. A typical comment came from Dr George Tolley, principal of Sheffield City Polytechnic. He wrote: "Because of very tight margins, standards will be maintained with great difficulty as further cuts are made. The outlook is bleak. Machinery for change is in place."

Dr F. M. Robins, director of Plymouth, was a little more optimistic. He wrote: "The general impression is that although a number of polytechnics have serious financial problems, the majority, although finding things very difficult, are managing to operate without significant redundancies, although staff-student ratios must be rising substantially and expenditure on equipment and consumables is at a

critical level."

Mr David Bethel, Leicester's director and a former chairman of the CDP, drew broader conclusions. He found polytechnics "in a pretty sorry state and in desperate need of central planning/rationalization. There can be no fat left in the system and the standards of service are dropping." But he added: "That is not to say that academic standards are necessarily at risk."

"Muddled and unsatisfactory" was the verdict on the financial condition of the polytechnics nationally delivered by Dr D. W. Macdonald, director of the Polytechnic of North London. He said that major reform of the local authority planning and funding structure was long overdue.

A consensus opinion was probably expressed by Dr Norbert Singer, Thames director, when he wrote: "The polytechnics, as a group, even the most generously funded have never

had a great deal of 'fat'. It seems quite unjustifiable in the face of increasing student numbers, to subject them to the sort of arbitrary economies which have been imposed and which appear to have no basis in any objective analysis of unit costs, actual needs, or any other discernible criteria."

The message of the survey seems to be that the polytechnics are in the process of absorbing just about as many cuts as they can before academic standards themselves are threatened; that the substantial gain in productivity that has already been achieved would be put in jeopardy by excessive cuts which demanded compulsory redundancies on a significant scale; and that so far as the polytechnics themselves are concerned, the student expansion is continuing whatever the contrary view from the worst end of the telescope in Elizabeth House.

The financial position of the polytechnics is very serious but not yet desperate, according to this survey. But if a halt is not called soon to further cuts, a similar *THES* survey in 1982 might produce a depressing report of declining academic standards and shrinking opportunities for students.

The questionnaire

Question 1. How large was the increase in income (in percentage terms) that your polytechnic would have required in 1980/81 to cope with existing and planned commitments?

Question 2. What was the actual increase/decrease in income according to your calculations?

The purpose of these two questions was to discover how much extra polytechnics required for "stand-still" budgets (the rough equivalent of the level funding promised but never quite delivered to the universities), how much they were actually given, and so to measure the gap, which in turn would give some indication of how far the Government had departed from its proclaimed policy of even-handedness between the two sectors.

Although the answers cannot be strictly compared because the questions were interpreted in different ways and the price bases for polytechnic funding have always been tenuous, a clear picture emerges. There is a yawning gap between what polytechnics needed just to stand still and what they actually received. Teesside, for example, a candidate for preferential treatment if there ever was one among the polytechnics, needed an extra 5 per cent but only received 1 per cent more (even though Cleveland's polytechnics, this good fortune was described with variable gratitude in the answers, by PNL as "not known" and by South Bank as "fully").

No precise overall figure is possible for the amount by which polytechnic budgets have been protected by local councils. The picture is complicated by other colleges offering higher education and by the difficult split between poolable and non-poolable courses. But a rough calculation suggests that the pool allocations in determining the appropriate level of finance for polytechnics. This good fortune was described with variable gratitude in the answers, by PNL as "not known" and by South Bank as "fully".

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At opposite ends of the spectrum of misfortune seem to have been two Midlands' neighbours. Leicester needed 17 per cent more but had to do with £1.6m less (offset by extra fees incomes). Trent needed only 1.2 per cent more to stand still but received more than twice that, an increase of 2.7 per cent.

Question 3. By how much, if at all, has your polytechnic's local authority support changed?

A difficult question to answer because all polytechnics still have courses that are not poolable and so must be paid for by local authorities directly if they

are to run at all. But the answers revealed the considerable extent to which most local authorities have cushioned their polytechnics from the full extent of the austerity envisaged by the DES.

Sheffield's basic allocation from the pool was supplemented by between £1.5m and £2.5m, and Trent's by £2m. Wolverhampton received £1.3m extra, while Teesside received an extra £580,000 from Cleveland, or 5.5 per cent of its total budget. In the case of Plymouth the budget of the polytechnic was split 85 per cent from the pool and 17 per cent from the local authority.

Coventry (Lanchester) was given an extra £300,000, £100,000 less than Kingston, and Leicester only £157,000 coupled with the stern and ungenerous warning to reduce this "overspending" wherever possible.

Among the most fortunate were those polytechnics maintained by high-spenders Labour authorities. Leeds' budget was supplemented "to the same extent as if the pool had not been capped". The five ILEA polytechnics were perhaps in the most favourable position of all because County Hall in its generous paternalism does not regard the pool allocations in determining the appropriate level of finance for its polytechnics. This good fortune was described with variable gratitude in the answers, by PNL as "not known" and by South Bank as "fully".

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Question 4. How many students enrolled in your polytechnic at the beginning of the current academic year, and how does this compare with the number in 1979/80?

The answers to this question successfully nailed the lie that student demand has begun to stutter after 25 years of continuous growth, and especially in the polytechnics and colleges. All the polytechnics which replied reported a growth in the number of students, and in most cases this growth was substantial and was spread across all categories of work, full and part-time, undergraduate and postgraduate. On this evidence on is left wondering whether the global APR rates produced by the DES have any more real relation to the actual student demand than the RPI and its mutations have to the rate of inflation.

This year the 12 polytechnics which gave useful answers enrolled 57,587 full-time equivalent students, compared with 54,954 FTEs in 1979/80. This increase of almost 3,000 FTEs in a single year represents a percentage



Dr George Tolley (Sheffield); Mr David Bethel (Leicester); Dr David Macdonald (North London).



increase of 4.8 per cent. Kingston was a typical example—a slight increase in the number of students combined with a more substantial decrease in the number of staff teaching them.

PNL enrolled 200 more full-time students and 100 more part-timers. Trent registered a particularly large increase in full-time students of more than 400, pushing up the polytechnics FTE total from 7,455 to 7,897. At Leeds full and part-time totals increased by just under 200.

At Teesside the number of full-time students rose by 7 per cent in a single year and there was an only slightly smaller increase in the number of part-timers. At Plymouth the growth in the number of full-time students was even more impressive—an increase of 399 over the previous year, a rise of over 13 per cent. But the number of part-time students actually fell marginally in the 12-month period.

At Wolverhampton full-time students were up by more than 200 while part-time numbers remained static. At Sheffield it was the same pattern, almost 300 more full-time students and 24 fewer part-timers. A similarly small but perhaps significant shift in balance between undergraduate and postgraduate students also took place, the former increasing by 8.4 per cent and the latter decreasing by 19 per cent. The same shift seems to have taken place at both Thames and the South Bank, although to a smaller degree.

An overall picture emerges of student demand for polytechnic education which is both encouraging and disturbing. It is clear that regular full-time degree courses continue to be popular whatever the opportunity, doom-stories in the DES and in the universities insist to the contrary. But there is in these answers just a whisper of a suspicion that the most distinctive parts of polytechnic higher education, part-time and post-experience courses, are being hit by the cuts.

Question 5. What is your overall staff student ratio, and how is it planned to change?

Present ratios varied from 7.6 (Teesside) to 10.03 (PNL) with almost every combination and complication in between, so giving some idea of the morass into which so many unit-costers have fallen. But the second half of the question evoked a predictably unanimous response. SSRs are going up (North London), and as fast as practicable. The message is that the polytechnics are in the middle of a great leap forward in efficiency.

A typical example is Leicester, A year ago its SSR was 7.95, this year it will be 8.84, and next year it will have risen to 9. The pattern at Preston is similar—8 in the present session, 9 next academic year, and 10.5 in 1982/83. This sparkling improvement in efficiency, however, is helped by the final phasing out of teacher education staff, and an early retirement scheme.

In most places the story is the same. Trent—9.5 now and a steady improvement over the next three years; Kingston—9.7 with a steady increase planned; Plymouth 9.1 rising to 9.6 next year (when it will be held steady); Sheffield—an already efficient 11.1 by 1982. Both PNL and Teesside at the outside of the spectrum plan to move to more progressive SSRs, the former over the next two years, the latter to 9.2 over three years.

This rapid and substantial improvement in productivity, of course, is based on assumptions about funding that may prove to be optimistic. The danger is that, impressive as they are, the Government will want more—and so place the process in jeopardy.

Question 6. At what stage would your polytechnic have to consider making compulsory staff redundancies?

As local education authorities, not the polytechnics themselves, are the employers of polytechnic lecturers, this was not really a fair question. But the replies received indicated that this was not only an area of exceptional sensitivity, which was to be expected, but, more surprisingly, that in many institutions it was a rather more distant eventuality than some scare stories have suggested.

Sheffield's was a typical reply ("Impossible to answer. 'Natural wastage', including early retirement schemes, would allow us to shed something like 10 per cent of staff over the next two years"). However many polytechnics confined themselves to the equivalent of no comment.

Others were more gloomy. Plymouth admitted that "further cuts of the order applied this year would cause us to consider making academic staff redundant", and Preston commented: "We must be very near to compulsory redundancies if there are further cuts." However, the optimistic end of the spectrum PNL stated confidently: "This is not a problem on present planning. This view, with some qualifications, seemed to be shared by the other ILEA polytechnics that replied. Teesside sees the question of possible redundancies as closely linked with its

ability to recruit enough students. Redundancies would only become necessary if more students were not recruited over the next three or four years. At Leicester the prospect seemed more immediate. 'If our estimates for 1982-83 are reduced, compulsory redundancies would be inevitable.'

One responding polytechnic, which no doubt prefers to be anonymous, put it more flamboyantly—"Yesterday!!!"

Question 7. How many overseas students are enrolled in your polytechnic and how does this total compare with the previous year?

Eleven polytechnics gave useful answers to this question. In 1979/80 they enrolled a total of 4,496 students from overseas, and in the present year this total has been cut by 374 to 4,122. This represents a decrease of 8.3 per cent, which is perhaps less catastrophic than had been feared or the public statements of some polytechnic spokesmen might suggest, but the Government's "high-fee" policy for overseas students has only just begun to bite.

There was no consistent pattern. Indeed one polytechnic, Plymouth, actually enrolled more overseas students this year (399 compared with 374 in 1979/80). Surprisingly the big London polytechnics also seem to have been quite successful in keeping up their overseas student numbers. PNL, for example, enrolled almost as many this year as last (761 compared with 773), and South Bank was almost as successful (534 compared with 580).

Even Kingston, with 323 compared with 344, held up well. In fact only Thames, which enrolled 280 this year compared with 351 the year before, suffered a significant decline in the number of overseas students.

Outside London it was a similar story. Leeds, Coventry (Lanchester), Preston, Leicester, and Trent, all held their numbers steady or suffered only slight declines. Sheffield (down 64 to 183) and Wolverhampton (down 48 to 192) were hit harder, but only Teesside (414 compared with a previous year's total of 525) suffered a serious decline and this may have been exceptional because of both the troubled history of the polytechnic in the past 1977-79 and the unusually high total of overseas students by the standards of most provincial polytechnics.

So the overall picture that emerges is of a significant but perhaps not yet irreversible decline in the number of overseas students.

French leave in danger

from Guy Neave

PARIS Drastic changes are likely in French undergraduate studies as the diploma of general university studies introduced in 1973 undergoes radical alterations. A ministerial decree published last month provides for a massive increase in the number of hours students must put in to obtain what is becoming known as the "reinforced diploma". Previously such time was in the order of 700 to 1,000 hours over two years. Now students will have to work between 1,200 to 1,500 hours to obtain the same qualifications. Particularly hard hit will be the social sciences, law, economics, language and area studies and the so-called sciences of matter.

Equally significant is the introduction of more stringent conditions for entry to second year studies. Students failing to satisfy the end of year evaluation will not be allowed to continue. They will also not be allowed to follow any subject they wish at the "second cycle" level—effectively years three and four of university study.

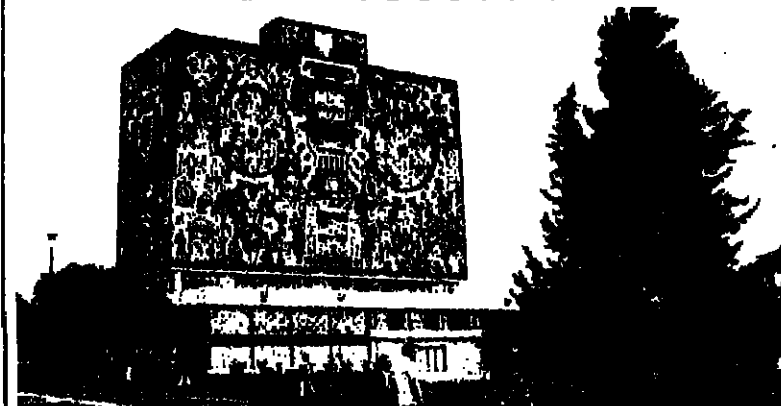
These developments have long been on the cards. In the middle of February the National Council for Higher Education and Research voted down a similar proposal put forward by the Minister of Higher Education, Mme Alice Saunier-Seït. Her proposal was, if anything, even more draconian. It provided for an examination body one of whose tasks would have been to ensure that attendance at lectures—never strictly adhered to up till now—was a condition of entering second year studies.

The national council's reaction was predictable. The reinforced diploma, though originally conceived for one specific university—the new foundation at Corte in Corsica—has become part of a contest of wills between academics and the minister.

Farming course

Summer will see a nationwide agricultural school-by-radio in China. The broadcasts from Peking will offer lectures on chemistry, plant physiology, soil and fertilizer, and seed selection and breeding.

More than 200,000 agricultural officials, peasants, farmworkers, agrotechnicians and middle school graduates in rural areas are expected to follow the course. Students will be enrolled by entrance examination. The whole course of study will last two years, and there will be tutors to help with lessons.



UNAM—new policy of quality not quantity

Campus population reduced

from Emil Zubryn

CUERNAVACA

The National University of Mexico has decided to reduce the growth of the student population, effective immediately, according to the institution's general academic secretary, Rodolfo Coeto Mota. The policy now will be not to grow in quantity but in quality, he said. Last year the campus population was 300,000, and for the current year will not exceed 312,000 in round figures.

Coeto Mota denied that planned cutbacks in student admissions will have violent repercussions because of the tremendous demand for higher education in Mexico. The government is continuing a policy of urging students to use regional facilities to ease the over-population at UNAM and other private institutions in the Mexico City and Valley of Mexico area.

The decision to limit student growth was taken after Dr Marcos Moshinsky and Dr Jesus Kumate Rodriguez, commissioned to undertake a study, revealed the existence of "grave" defects in academic standards due to overcrowded classrooms, the result of the

former policy of admitting masses of students without any efficient selection process. The report also pinpointed a lack of training on the part of academic staff, and recommended that all lecturers should have a further degree, or at least a broad based training in their speciality.

Apart from overcrowded conditions, UNAM faces a serious financing problem. Notwithstanding the fact that the present year's budget is at 17,395,000 pesos (\$317m), as compared with 11,366,000 pesos (\$240m) last year, the university will have to exercise extreme care in sharing out funds, due mainly to high inflation, and the recent salary increases won by academic and administrative personnel. On the global basis, and indicative of the broad expansion of education in Mexico, the Ministry of Education reported a "conservative" need for more than 400 billion pesos (\$8.9m) for 1983, with this more than double the present budget. The educational budget this year is at 196 billion pesos for a total student population (from primary to university levels) of 21.7 million.

Europeans compare experiences of regional integration

from John Walshe

GALWAY

The increasing importance of the university role in regional development was the theme of a conference held at University College, Galway.

Heads of 93 European University institutions were able to compare experiences of regional integration of colleges in many differing circumstances. Organisers of the three day gathering—the Standing Conference of Rectors, Presidents and Vice-Chancellors of the European Universities—felt it was appropriate to have such a debate at a time of financial cutbacks.

Lord Briggs of Lewes, provost of

Worcester College, Oxford remarked that during lean financial times universities were primarily concerned with their own problems, but the conference afforded them the opportunity to look outside their walls and review their continued role in regional development.

Until the last 20 years universities were not thought of primarily (if at all) as agencies of regional economic development. Rather their income and scale were felt to be related to national and economic development which they did not directly influence or control. Nonetheless, said Lord Briggs, the growth of universities during the Middle Ages and later preceded the full

pressure of centralising tendencies of modern states, and "regional" conceptions came first. The present university map of Europe reflects these initiatives. Looking to the 1980s he said it was not the desirability of universities contributing to regional economic development which was most in question, but their effectiveness in the long term development process.

The rector of the University of Trieste, Professor Giampolo de Ferra said that collaboration between the university and the region would seem to be the most fruitful in the field of research undertaken with a practical aim. But the university ran the risk of being used as a mere instrument. He

was referring to the region concerned the university finance according to the preconception which only studies in a certain field would be funded.

A university, forgetting all other terms, would not only need to be re-examined, but also by furnishing a little value, lacking the support of a fundamental research. On this point the result obtained by a European university would be one which would be guaranteed by a regional authority following a rigorous methodology which cannot disregard the need for setting the specific problem in a general framework.

Simon Midgley meets the beleaguered but resilient secretary-general of the Arts Council

Sir Roy's ring of confidence

"No one who appreciates Henry Moore could bear to live with a plastic heron!" Direct, uncompromising and invariably humorous, the secretary-general of the Arts Council does not mince his words.

Sir Roy Shaw's response to a suggestion by Margherita Laski that "high art" should not be forced on those who lack the taste for it is typically forthright.

This slightly flinty and not easily ruffled self-assurance is hard won. It is one of the most striking characteristics of the son of a Sheffield steelworker who made it from the wrong side of the wrong street.

Paradoxically, this apparent certainty of conviction is constantly undercut by a puckishly irrepressible fondness for self-mockery. Or, to put it another way, the secretary-general giggles a lot.

This refusal to take himself too seriously, engaging and disconcerting by turns, also prevents yet another person — this one slightly schoolmasterly — from achieving more than transitory pre-eminence.

Earlier this month in his spacious office overlooking Green Park the ironic daemon was, for the most part, in the ascendant.

More than six feet tall and big-boned with it, there is something slightly incongruous in the sight of such a substantial presence carefully decanting tea into china cups while calmly recalling his steady, if unspectacular, rise to prominence. (A close friend, the playwright Arnold Wesker, once described him as looking, "with his bashed in nose", more like a prize fighter's trainer.) More like a prize fighter's trainer than what, he conveniently forgot to mention.

"We are a tough breed to get where we are now," Sir Roy says of himself and another long-standing friend, Richard Hoggart, warden of Goldsmith's College and the author of *The Uses of Literacy*.

"None of it has fallen into my lap. A working class lad with no future. I have had to be resilient."

Born into a family without cultural or educational aspirations at the end of the First World War, he went to the local grammar school. Staying on longer than most of his contemporaries (some of whom were meanwhile bringing home 30 shillings a week — an economic fact that did not escape his mother's envious attention), the onset of a serious abdominal illness at the age of 18 ensured that he missed the university entrance examinations.

It was in retrospect the first of several critical cross-roads in his life. Foregoing this more auspicious and less hazardous avenue to middle class respectability and professional preferment, Sir Roy was forced, at least initially, to take the harder road of worldly experience and part-time study.

A long and rigorous matriculation was in the offing. After starting work as a copyholder, "the lowest form of life" in a printing works (someone who literally holds the copy while the proof reader checks it), he had a brief spell as a publicity assistant in a newspaper office before joining Sheffield Public Library.

When the Second World War started Sir Roy registered as a conscientious objector. Despite being ineligible to serve on medical grounds he insisted on recording his opposition for moral reasons. It was a characteristically courageous — he now says "self-righteous" — decision which was to cost him dear.

"The chief librarian called me to his office and told me that if he had his way people like me would be put up against a wall and shot," he recalls.

Subsequently the librarian "took steps" to make life as uncomfortable as possible for his young counter-hand



and eventually Sir Roy's health gave way.

Fortunately "the warden of an adult education body, the Sheffield Education Settlement, knowing of my predicament, arranged for me to spend a term at a Quaker college in Birmingham — Woodbrooke."

The term became a full year when the college offered Shaw a scholarship and a subsequent loan enabled him to go on to Manchester University where he read philosophy and German.

On graduating he started freelancing as a Worker's Educational Association lecturer. It was to be the start of a life-long association with adult education which was to culminate many years later in the professorship of his own department at Keele University.

Missing from any *Who's Who*-like account of Sir Roy's vital statistics is his conversion to Roman Catholicism in 1958.

"I reasoned my way into the church and reasoned my way out," he says, adding with a chuckle "I know that a second reason was better than my first."

The council is under fire from the right for supporting outré forms and from the left for allocating substantial sums to opera.

Attracted for intellectual reasons by the philosophy of theologians like Thomas Aquinas and St. Augustine, he left in 1968 "driven out by the papal encyclical on contraception." He is now a liberal agnostic. He also has seven children.

Travelling slowly then by an unfashionable route Sir Roy spent nearly 40 years working in the regions — the fight's share of his professional life being devoted to the education of adults, particularly working-class adults.

He is passionately convinced that education is the way in which the "best" of the world's cultural riches can be made available to the "most" people.

"In the past high culture has been the prerogative of the bourgeoisie but that does not make Bach or T. S. Eliot art forms which are unavailable to working people. What it does mean is that working people have not been given sufficient opportunity to study and enjoy them. One of the joys of my life is to see this happen."

Nor does he believe that artistic

experience needs to be diluted to make it acceptable to the "masses". The real challenge he says, recalling the words of Richard Hoggart, is to "get across" without "selling out."

Although he has always been interested in the arts it was not until he was at Keele that he really began to explore the relationship between arts and society.

It was around this time that he met Arnold Wesker who was trying to make the arts more accessible to working people by setting up an arts centre, Centre 42.

At the age of 57 Sir Roy arrived at 105 Piccadilly — home of the quango blessed with the unenviable task of apportioning that part of the nation's wealth earmarked for the arts. The adult educator with a strong interest in the arts had turned arts administrator with a strong interest in education.

The first six years of his secretary-generalship have not, as he might have put it, been "a cushy berth." As Richard Hoggart has said, there is a "crisis of relativism" in the arts today and the Arts Council is right in the centre of it.

On the one hand the council is under fire from the right for supporting new forms of art (and sometimes for subsidising "political art") and on the other it is attacked by the left for allocating substantial sums to opera, ballet and symphony orchestras — activities that are regarded as elitist and irrelevant because only accessible to a "privileged" minority.

More recently the council has been criticized for daring to withdraw grant aid from 41 organizations, and more particularly and perhaps more justifiably for the manner in which the decision was taken and way in which the news was announced.

Sir Roy looks back wistfully on the days when Lord Goodman was chairman and Jennie Lee Minister for the Arts. Then, he says, there was "a general consensus... that 'high art' was important to the life of the community and... we had a good idea that we could discern quality in the arts when we saw it."

Up until 1975 the Arts Council had mainly confined itself to increasing the accessibility of the arts. With its arrival it is now increasingly turning its attention to improving "the knowledge, understanding and practice of the arts."

"I would be unhappy if I left this job without having promoted bridges between arts and education provision," he says. "If my obituary could describe me as having made a significant contribution to using education at all levels to make the arts more widely accessible I would die a happy man."

A provost called from the Bar

The new provost of City of London Polytechnic, Mr Michael Edwards, is a rarity among the latest generation of directors.

While the trend elsewhere has been to promote a senior educator or administrator to fill the retiring director's shoes, City has picked a total outsider with only the briefest and most remote professional connexions with post-school education.

When practising at the Bar at the outset of his varied career, Mr Edwards taught evening classes at Clapham College of Commerce. Since 1960 he had worked away from the courts, concentrating on management.

He had chosen the Bar deliberately because of its highly individualistic nature and its contacts with people.

After five years practising as a barrister, some disillusion set in. "I wanted to do something which depended entirely on me as an individual and that is why I chose the Bar. But I found it had its limitations."

"A barrister is not like a family doctor or solicitor. At the Bar you are more like a consultant in the National Health Service. You see your client once and you do not know whether the lad you got off when he was charged with wounding someone goes on to make a success of his life or ends up in prison."

He left the Bar for a five-year stint helping to draft legislation as Assistant Parliamentary Counsel, but this too left him ultimately dissatisfied.

"It was intellectually very difficult work and therefore very stimulating, but to me not entirely satisfying. You are not the engineer, the designer; you are the mechanic. You realise you are only a small cog in the machine."

In 1960 he was approached to join Courtlauds, the textile giant, as deputy legal advisor and was almost immediately caught up in the historic take-over battle with ICI, working closely with Sir Frank Kearnson, later Courtlauds' chairman, who successfully led resistance to ICI's bid. Their collaboration continued when Mr Edwards took on the task of developing the sales of complete plant and know-how packages to the Soviet Union and other Eastern European countries anxious to build their own man-made fibre.

While continuing to work in the firm's legal department he was appointed commercial and financial director of the fibre plant export subsidiaries.

In 1967 he was sounded out by a fellow barrister on the organising committee paying the way for the nationalisation of the steel industry, and was eventually persuaded to join the Infant British Steel Corporation to set up its legal department, a challenge he could not resist despite his reluctance to leave Courtlauds.

He describes himself still as "neutral" in his attitude to nationalisation, but has a number of pungent observations to make about the mechanism which the Labour Government chose to apply. "The structure of nationalised corporations is based on the 1945 Labour Government's scheme for the public utilities, and has hardly been developed at all when it has been applied to ship-building, aerospace, British Airways, and others which are international businesses not public utilities."

He found inaction over how best the nationalized industries in general should be run very frustrating, but feels he was lucky in the task he carried out for British Steel.

After establishing its legal department, he set up and ran one of the corporation's profit-making activities, the companies which administered its inherited overseas investments, and operated an international consultancy offering British technology overseas.

This, he found fascinating and constructive, and he has difficulty disguising his disappointment that the Government decided that all the overseas assets should be disposed of when the corporation faced last year's financial crisis.

Mr Edwards has just been appointed a Q.C., one of the five barristers longer practising at the Bar to become barristers. More than half of all barristers are not at the Bar but employed, and until two years ago could not be.

He had the dispiriting task of carrying out the exercise despite his publicly-expressed view that the policy was gravely mistaken. "I was involved in selling investments not to the British private sector but to overseas purchasers, sometimes our competitors, to raise tens of millions of pounds which would be lost in less than a week."

"I thought the time had come to go," BSC's new chairman, Mr Ian McGregor, encouraged him to stay on and find something else to do in the slimmed down corporation.

"But I felt no sympathy for a situation in which investments which had been built up over 50 years in different parts of the world, which had given us not only dividends but expertise and unique contacts with other steel makers, were being disposed of."

Having decided to leave BSC, he started looking for an alternative and was then that he applied to the polytechnic. "The more I saw of it, the more interested I became." But he confesses to surprise when the job was offered to him.

One advantage he will have over any academic appointment is his freedom from the threat of a given discipline or subject background which could lead to protection of a favoured department at the expense of another.

He accepts the future for polytechnics in general and City is particularly unlikely to be free from problems.

While not subscribing to the absolutist doctrinaire vocationalism expressed in some quarters, he believes it is necessary to recognise reality and appreciate that nearly every student will have to earn a living on leaving higher education.



Michael Edwards: new man at the City.

"It is sometimes suggested on one of the banks, the insurance companies, the industrial firms to whom our students will work."

"I do not go along with that. You cannot treat people as though they were products. I believe it is the student who is the customer always. We have to work very closely with prospective employers to understand what the opportunities are and what type of training is going to be needed. But we are doing that not for the benefit of the employer but of the student."

Without a direct presence in the City itself, close to the firms from which many of its students are drawn, the polytechnic would lose much of its strength. A welcome development, he says, is the allocation of a redundant school buildings in Shoreditch to relieve the long running nightmare that the polytechnic would lose the greater part of its accommodation as expensive leases on its City centre buildings fell due.

But there is still a fear that the major City presence, its Moorgate building, may be lost. Mr Edwards accepts that the nature of the polytechnic would be changed by this loss.

"If I am right in believing the City institutions themselves feel we fulfil a need, why should they be entitled to put it to them that we are going to disappear unless they make a contribution... I wonder. This may be one of the contributions I can make."

Mr Edwards has just been appointed a Q.C., one of the five barristers longer practising at the Bar to become barristers. More than half of all barristers are not at the Bar but employed, and until two years ago could not be.

David Jobling

John O'Leary explains the findings of an exhaustive report on the overseas student question

A case for rescinding the full-cost fees policy

The trouble with large research projects which attract advance publicity and deal with controversial subjects is that the sponsors have to live with their results. This is something which the Overseas Students Trust may come to rue as increasing reference is made to its book, to be published on Tuesday, *The Overseas Students Question*.

Increasing reference there undoubtedly will be because the book, edited by Professor Peter Williams, head of the Department of Education in Developing Countries, at the University of London Institute of Education, is a mine of information on every aspect of policy regarding foreign students. It should more than satisfy the complaints of MPs on two Select Committees that data on the issue were inadequate for the reliable determination of policy.

Well respected contributors examine the background to the present situation, assess the impact of overseas students on British trade and on Third World development, draw out the implications for foreign policy and compare the contribution of Britain with that of other countries before reaching a conclusion in "the way ahead."

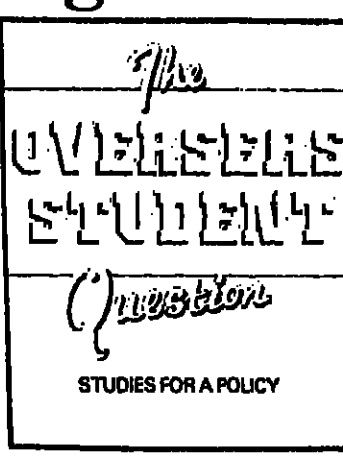
However, one chapter stands out as the obvious centre of future controversy which may do little for the case which OST and others are anxious to promote, namely that the full-cost

fees policy should be substantially altered. This is made the more certain by the fact that the chapter, on the economic costs and benefits of overseas students, by Professor Mark Blaug, of the Institute of Education, is the one most keenly awaited by those seeking new evidence on which to base arguments for change.

Debate on the level at which fees should be pitched, given the need to reduce the cost to the taxpayer of educating foreign students, has been hampered by a shortage of reliable data. The Department of Education and Science has tested its case on crude average costings and the only serious opposition has been a somewhat general analysis entitled *Overseas Students: a subsidy to Britain*.

Professor Blaug effectively demolishes both in 40 pages of sophisticated analysis one might expect from a professor of economics, incorporating regression analysis and academics' time-diaries. He subscribes to the popular opinion that the DES method of calculating the level of subsidy previously given to overseas students is fallacious. Average costs are not reasonable, he agrees, and there are substantial benefits from having foreign students in the country.

But there is a damaging sting in the tail: the costs are considerably greater than the DES estimates, according to Professor Blaug, while the benefits are



STUDIES FOR A POLICY

largely unquantifiable. Indeed, he puts the cost of overseas students at more than twice that agreed by the DES even when looking at marginal costs (£226m compared with £102m).

He leaves aside the accepted trade benefits of taking overseas students and makes no allowance for foreign exchange earnings, dramatically reversing the findings of the group from the United Kingdom Council for Overseas Student Affairs and the National Union of Students, turning a £12m profit into a deficit of between £47m and £186m.

In summing up his analysis, Professor Blaug writes: "What we did was to

seek an economic reason for setting aside 'the contributory principle of Government expenditure' based on the demonstration that the indirect and unquantifiable benefits of overseas students to Britain as a whole are greater than their costs. We found that the opposite was the case, which means that we cannot waive the principle on economic grounds."

"This says nothing about waiving it on other grounds by adopting a global, cosmopolitan approach to the problem of overseas students, thus entering into reciprocal arrangements with some countries where there is a basis for reciprocity and, as for the rest, treating the subsidy to overseas students as a special form of foreign aid. The latter view would perhaps imply full-cost fees for overseas students but generous scholarship programmes for students from selected programmes."

This is, in fact, the solution favoured by Professor Williams and, it seems, by other participants in the OST conference last year. Although Professor Blaug's analysis is likely to be the part of the book which attracts most attention (particularly from ministers), the remainder provides convincing arguments that foreign students are worth paying for.

At the very least, it shows that the equation is a good deal more complex than that allowed by the Government. An OST survey of 50 British com-

panies is inconclusive on the benefits to British commercial interests but contributes anecdotal evidence in favour of foreign students' influence in later life, while William Wallace makes out a good case for the advantage overseas students give in terms of foreign policy.

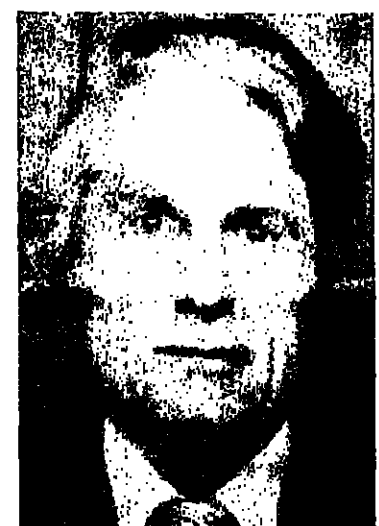
On top of this, the book shows that Britain is by no means the main provider of places for foreign students, either in terms of sheer numbers or even as a percentage of the student population. It also repeats the now well-known arguments about the likely damage to British universities.

The inescapable impression left by the thorough examination carried out over almost 300 pages is that the issue of overseas students' fees warrants a great deal more consideration than politicians and civil servants would appear to have given it. Former Conservative Home Secretary Lord Carr sums up the minimum demands arising from the wealth of evidence collected: "In all future policy-making on the overseas student question, I believe it to be vital that we consult with other countries; whether it be to avert hostility, the better to meet the needs of less developed countries, or to plan a collective approach with other rich host countries."

The Overseas Student Question, published May 5 by Heinemann, £6.50.

Cumbersome machinery of quotas

In this extract Professor Peter Williams outlines a system which might be more workable and which commands support at a closed conference of academics, politicians, businessmen and administrators held by the Trust in October last year.



Prof. Williams: alternative approach

An alternative approach to the distribution problem — ie to the problem of influencing the composition of the overseas student body, in order to ensure that British interests and obligations find due recognition — is to operate an award system of bursaries and scholarships. This actually has several advantages over differential fees or specific quotas. In the first place it is possible with an award scheme to incorporate payments other than tuition fees. Costs of travel and maintenance may also be included, and by meeting total costs in some instances the field of potential candidates will be widened. For without awards, even if tuition were free, the annual costs of board and accommodation in Britain — at not less than £3000 in 1980 — effectively prevent all but the well-to-do from taking advantage of places.

Secondly an award scheme can be effective and directed way than the differential fee scheme or quota. Income from above the quota level of regulation from above the use of ceilings on numbers, the award scheme works up from the bottom so to speak by ensuring a specified number of places of a particular kind for particular purposes or particular groups of students. Third, used in conjunction with a system of full-cost fees the award scheme may be much less costly than an exemptions system, as it is possible to limit the numbers supported. With an exemption system — as applied in 1980/81 to refugees, Community students or to refugees, both of which categories qualified for home fees — there is virtually no control over the number who may qualify under any prescribed category.

In the course of the recent discussions sponsored by the Overseas Students Trust a broad consensus view seems to have emerged that the way ahead in British provision for overseas students lies largely in the expansion of support schemes targeted to various priority groups coinciding with identified interests and obligations. For this to take effect it would be necessary to build on already existing schemes in the form of technical co-operation awards on the vote of the Overseas Development Administration, Commonwealth Scholarships, British Council Scholarships and Bursaries, government contributions to

the Confederation of British Industry Overseas Scholarship Scheme, support for academic exchange programmes and the like.

One might envisage a very greatly expanded provision under these schemes, taking account of the much greater needs arising with the introduction of full-cost fees. While the exact number of awards would depend on the government's perception of its interests and obligations at any particular time and on the state of the economy, it should be borne in mind that even 15,000-20,000 fully paid awards (including travel and subsistence) could be funded for a sum no greater than the estimated former net "subsidy" (put by Blaug at £180m) and if the same amount were used to finance partial awards the coverage could be much more extensive still.

It is tempting to think that a system of this kind could establish a clear order of priorities for the future allocation of British public funds among different purposes and different categories of student. Certainly it would be desirable to attempt to define broad priorities at the outset and to institute a comprehensive review from time to time. On the other hand some caution about the possibilities of producing an agreed list of priorities is probably appropriate, bearing in mind, first, Wallace's point about the extent to which obligations and expectations have been inherited and, second, that many of the expected benefits are unquantifiable and cannot be reduced, for example through a simple scale of benefit analysis, to a single set of values. Different sets of decision-makers in different departments of government and in organisations outside government may have very different sets of value preferences. It is not possible here to do more

The real subsidy level

In this extract, Professor Mark Blaug makes a critical examination of the level of subsidy said to have enjoyed by overseas students.

In 1976, Tony Flowerdew and Richard Layard updated these Verry Davies figures by using the Brown Index of University Costs, which had risen from 100 in July 1969 to 266 in January 1976. They estimated the long-run recurrent-plus-capital marginal costs of home students in January 1976 at £1750 and noted that this was roughly two-thirds of the average cost per student, £2625. Because overseas students were concentrated in more expensive postgraduate courses, however, they calculated that the long-run marginal costs in the academic was as much as £2600, being a cost-weighted average of £900 for undergraduates and £3000 for postgraduates, which by pure chance is just about the same figure as the average costs of all students.

The Brown Index has risen from 100 in January 1976 to 132.1 in November 1978 and 146.6 in November 1979 (the index is no longer calculated for January). Applying the Brown Index to the Flowerdew-Layard estimates thus yields the following figures for long-run marginal costs in the academic

	1978	1979
Home students	£2312	£2565
Overseas students	£3435	£3811

Overseas students are much more expensive than home students not because of any higher teaching or administrative costs but simply because roughly a third of all overseas students are postgraduates on laboratory-based science, engineering and medical courses.

The Government has frequently mentioned the figure of £127m as the cost to the Exchequer in 1978/79 of subsidising overseas students in public higher and further education, made up of £102m on 59,625 overseas students in advanced-level work and £25m on 27,154 overseas students in non-advanced work, a category of overseas student which we have so far ignored. These figures seem to have been calculated from average recurrent expenditure on both home and overseas students in higher and further education. But if the long-run marginal cost of overseas students in universities and polytechnics is more or less the same as the average cost of all students, the implied subsidy per overseas student in advanced work in 1978 is £2635 (£3435 - £800, the weighted average fee paid by or for overseas students in the academic year 1978/79), amounting to a total of £155m, to which something

more must be added for the subsidy per overseas student in non-advanced work.

Little is known about costs of non-advanced further education colleges but if we update earlier work in the 1960s, it appears that a figure of £1300 for marginal costs in 1978 is not unreasonable. Overseas students in non-advanced further education paid a fee of £390 in 1978; thus the subsidy for this category of student is indeed £25m [£27,154 x (£1300 - £390)], giving a grand total of £180m for the subsidy on all overseas students in public higher and further education.

The notion that long-run marginal costs in higher education are roughly two-thirds of average costs and that the Government is consistently overestimating the public costs of subsidising overseas students by appealing to average rather than marginal costs has received wide currency. It seems to have been planted by a Report of the Working Party on the Costs and Benefits of Overseas Students in the UK, which simply applied the perfectly valid two-thirds rule for home students indiscriminately to overseas students where, as Flowerdew and Layard showed, it does not pertain. Since then it has echoed repeatedly in parliamentary debates and endorsed by at least one parliamentary committee. The Government's propensity to appeal to a crude measure of average cost — recurrent expenditure — in higher education divided by the total number of students — has in fact flattered rather than damaged the case for overseas students at the price, unfortunately, of promoting widespread misunderstanding about the true costs of overseas students.

If we must have a single figure for the total long-run marginal costs of overseas students in public sector higher and further education it is £266m, made up of £225m (£3811 x 59,000) in advanced work and £41m (£1500 x 27,500) in non-advanced work. This calculation refers to 1978/79 and our student numbers for that year are estimates only. We emphasize again, however, that the long-run marginal savings of fewer overseas students are not simply the inverse of the long-run marginal costs of more overseas students. It might well take more than ten years to realize all the potential savings of fewer overseas students. In the next two or three years, any reduction in numbers would reap some savings in the polytechnics and almost no savings in the universities. Even if all overseas students were to disappear tomorrow, it would only be by the 1990s that we could cut gross expenditure by as much as £266m, or net expenditure (gross expenditure less fee receipts) by £200m.

Freedom to be true to yourself

Extra-mural political activities do not affect the right to promotion in Israel. Stephen Goldstein and Frances Raday have been looking at academic freedom there.

There is in Israel a highly developed sensitivity to the need to preserve and protect academic freedom in its widest form. This sensitivity springs from the historical and geopolitical situation in which Israel is rooted. In the historical context, Israel's memory is imprinted with the prestate experience of many of its immigrants who, coming as they did from Russia and Nazi Germany, had been the victims of a discrimination which was engendered and influenced by suppression of civil liberties, independent thought and academic freedom.

Many of our founding fathers in both government and the academy had themselves personally experienced the excesses which may result from an erosion of those nineteenth century German principles of *Lehrfreiheit* and *lernerfreiheit*—freedom of teaching and learning. Ironically, in the geopolitical context, Israel finds itself in a crisis situation in which protection of these principles of civil liberties and academic freedom are purchased at a high cost.

The cost can perhaps be best illustrated by the debate conducted in the press in 1974 between a Tel Aviv University professor, Amnon Rubinstein, and the then rector of the Hebrew University of Jerusalem, Professor Michael Rabin. The debate was concerned with the activities of Israel Shahak, a lecturer in organic chemistry, who was well known for his international activism in denouncing the state of Israel, its internal and international policies, and for the dissemination of anti-Israel propaganda.

The climax, however, was reached when Shahak was charged with appearing in a Palestine Liberation Organization sponsored assembly in Holland. In the context of ongoing hostilities (and at that time hostilities were at a particularly high ebb in the aftermath of the Yom Kippur War) between Israel and its neighbours and the open threat to the very survival of the state declared by the PLO in its constitutional mandate, such activities are hard to tolerate and on these grounds Rubinstein expressed his opposition to the promotion of Shahak to the position of professor of the Hebrew University.

Comparing Shahak's anti-Israel propaganda to the war-time activities of Lord Haw Haw and the Tokyo Rose, Rubinstein argued that in other countries Shahak would have been tried for treason and that hence it was not unreasonable to demand that the university should refrain from promoting him to professor. He pointed out that the very title of professor gave



Educational merit determines student admissions

credence to Shahak's activities abroad, credence based on the fact that the Hebrew University saw fit to bestow that title upon him.

The rector of the Hebrew University replied to Rubinstein in a forceful article in which he defended the decision already taken by the university to promote Shahak to professor. He described academic freedom as guaranteeing not only the freedom of academic institutions from governmental intervention but also the freedom of academic staff to independence from the interference of the academic institution itself in the content of their research and teaching. He included as an essential element of this independence of academic staff their right to freedom of political opinion and expression "however intolerable". Hence in the view of the rector, so long as Shahak did not hold himself out as officially representing the Hebrew University, his extramural activities would not affect his rights to promo-

tion. Shahak remains a Hebrew University professor till now.

Academic institutions are protected by statute law against governmental intervention in their freedom to determine their own academic and organizational affairs, including the fixing of research and teaching programmes and the appointment of staff. The internal protection of academic freedom within the academic institution is left largely to the university authorities themselves but certain essentials are demanded by statute law, thus, for instance, appointment of staff must not be discriminatory on grounds of race, sex, religion, nationality or social position. Although the main protection of academic freedom lies in the guarantee of the independence of the academic institutions themselves from outside interference and in the independence of their staff in the fixing of research and teaching programmes, it is also worthy of note that the statute law requires that admission of students

be on grounds of the applicants' educational achievements. Hence any attempt to discriminate in selection of staff and students would expose the universities to legal action in the courts.

We discovered no registered claims of discrimination against any of the universities by staff or student applicants; a discrimination action was brought in the High Court of Justice by a student who complained that the refusal to grant her a doctorate was on grounds of "subconscious sex discrimination" however she adduced no evidence to prove the allegation.

In practice, the universities have provided for the protection of academic freedom in their own constitutional documents. As is generally recognized, essential to the protection of academic freedom is the provision to the academic staff of procedural protection against discrimination in hiring, promotion, or dismissal based on their political or social views. In Israel such

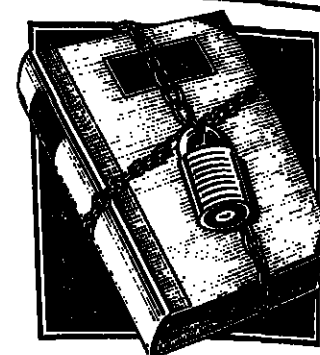
procedural protection is provided for in the constitutional documents of all the universities. This protection is founded first and foremost on the fact that tenure is provided to all university faculty members who successfully complete an initial probationary period. In Israel tenured faculty members may not be dismissed except for good cause directly related to violation of obligations to the university and, after a full and fair adversary hearing before a committee of their academic peers. It should also be noted that we have been able to find no instance of the dismissal of a tenured faculty member in an Israeli university except on grounds of a criminal conviction and, thus, as a practical matter, tenure provides complete security of academic freedom to a university faculty member.

The constitutional regulations of the universities provide elaborate procedures for hiring, promotion and the providing of tenure, procedures which are designed to ensure, as far as possible, that such decisions are made solely on the basis of academic merit. An essential part of such procedures is a series of checks and balances involving various university units, i.e. departments, and general university committees, all of which are composed of faculty members. Moreover, opportunities for promotion, and the providing of tenure, require the presentation of the opinions of experts, beyond the university and, indeed, beyond the boundaries of Israel itself.

These university constitutional provisions do not, for the most part, refer specifically to academic freedom but rather include it inferentially by emphasizing the affirmative standard of academic excellence as the sole basis for decision making. However, the constitutional documents of Tel Aviv University do specifically refer to academic freedom. In words that serve as a summary of the position of academic freedom generally in Israel, the universities, the constitutional regulations on the rights and obligations of the academic staff, adopted on December 1, 1976, provide in paragraph 1 thereof:

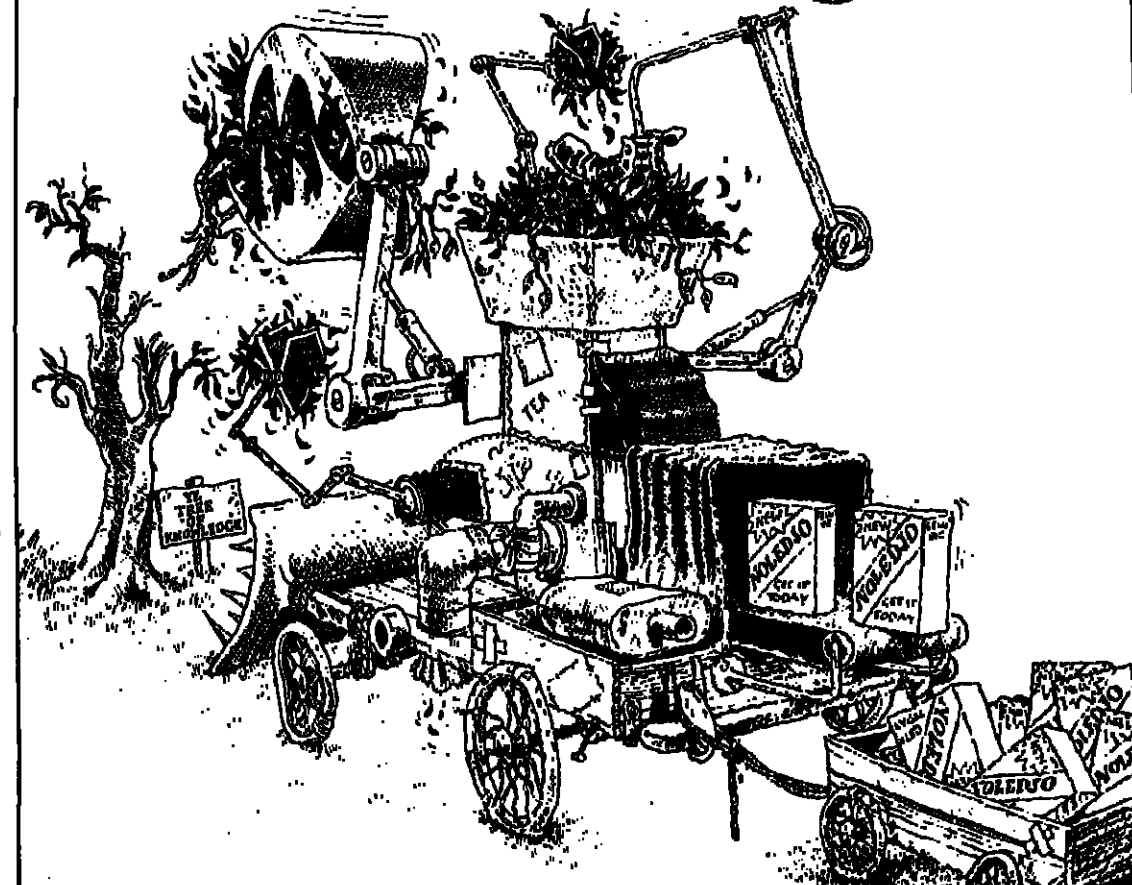
"It is hereby recognized and declared that the members of the

continued on page 11



Tom Stonier explains how the knowledge industry has become a growth area in our society

A little learning is a lucrative thing



The early 1980s will represent the closing of an era. In fact the industrial era probably came to a close two or three decades ago, but it is not until the 1980s that this will be generally understood. At the moment there is still a general feeling that "if we can only get it right with British Steel or British Leyland, etc., then we will be in good shape again". The emphasis is on competing in world markets with manufactured goods. That is a nonsense. Even industries which have done reasonably well, in the 1970s, such as the chemical industries, will see a decline in Europe in the 1980s and 90s parallel to that observed earlier for steel and automobiles.

What will emerge is the general realization that the most important input into modern productive systems is knowledge. Knowledge now is more important than the traditional land, labour and capital, and even inputs of materials and energy. This reflects the fact that with enough technological and/or organizational expertise, you can either greatly reduce the requirements for these inputs, find substitutes, or actually create them *de novo*. An example of actually creating land *de novo* is the reclamation of the Zuider Zee by the Dutch or the desert reclamation carried out by the Israelis. Examples of *de novo* energy synthesis include the conversion of solar energy into electrical energy, or the energy of converting North Atlantic waves into electricity.

Knowledge is the most important single input into modern productive systems. We have become an information society in which the knowledge industry is the major growth area and in which the bulk of the labour force has become information operatives.

It is wonderful what you can do when you know enough: 50 years ago, who knew about North Sea oil? And if you had, who knew enough to drill it out. Information can create wealth by (1) being sold directly or by coupling it to other material systems utilising either (2) organizational know-how or (3) through technological know-how. The term know-how is used here as describing a high level of expertise. Knowledge consists of an organised body of information, such information patterns forming the basis of insights, judgments, etc.

Information may be sold directly by an individual or an organization as a patent, copyright, or licence. In addition, most individuals today make a living by manipulating information. It is doubtful whether any of the readers of this paper make a living operating a machine in a factory or working the land. The bulk of the labour force today involves operatives who make their living primarily by means of information accumulated inside their heads: professors, doctors, solicitors, managers, librarians, journalists, teachers, accountants, and a host of others who make their living by storing and disseminating information, e.g. filing clerks, salesmen, newspaper vendors, employment agents, etc.

2. Among the most important information operatives are managers who possess organizational know-how. They are among the most highly skilled members of the post-industrial economy. They must weld into a viable organization not only machine operatives (sometimes also farm operatives), but a whole host of other information operatives who, in a large firm, may include those involved with accounting, finance, cash flows, taxes, contracts, personnel, industrial relations, public relations, community relations, recruitment, planning, forecasting, design, education and training, sources of supply, energy conservation, plant maintenance, repairs, engineering, office management, advertising, marketing, sales networks, communications, competitors, company policy, etc. Note that each of these activities may involve managers who supervise further information operatives such as draughtsmen, technical salesmen, filing clerks, etc. It is this web of information and information operatives which determines the success (wealth-creating ability) or failure of the product. A significant failure in any of the departments listed above could cause a collapse of the whole enterprise, although there may be a substantial lag between a specific failure and the full impact of that miscalculation.

3. Wealth is created through technological know-how—either by reducing the cost of producing a given

product, or by creating entirely new products and services. Texas Instruments Company is now considered a classic example in what is called the learning curve. The learning curve involves applying new know-how, based on the experience of production. Every time the volume of production doubled it became possible to cut costs on average by 28 per cent. The pocket calculator itself is, of course, an excellent example of creating a new product through technological know-how. Pocket calculators appeared first in 1971. Within the decade they spread all over the world and today it is estimated that in the UK there are at least as many pocket calculators in use as there are households. The enormous advances in microchip technology are, of course, responsible for this particular product.

All industries from the beginning of human economic activities were based on know-how. However, we are discussing here industries whose information base is at the forefront of human knowledge. It is those companies and countries which can move upstream technologically, ahead of the others, whose economy remains most stable, and whose profits continue even when there is a recession. Usually this reflects the fact that either they have created new markets for themselves where none existed before, (e.g. antibiotics, pocket calculators) or they have improved their productivity so effectively as to leave competitors behind. Many of the companies rooted in advanced technological know-how not only survive recessions, they may actually expand. This happened during the recession of the mid-1970s for certain companies dealing with petrochemicals, pharmaceuticals, advanced electronics, computers, telecommunications.

Texas Instruments is an example: during those recession years it

expanded from a one billion dollars sales per year industry in 1973 to a two billion dollars industry by 1977.

Not only individual business enterprises but entire countries are able to overcome general economic adversities during periods of recession. The two best examples are Japan and Switzerland. Both countries have a shortage of land and a dearth of mineral resources. Yet both are economic powers in their own right. If their power and wealth is not based on an indigenous physical resource, what is it based on? It is clearly based on their human resources—the skill, education and discipline of their workforce.

It is noteworthy that both Japan and Switzerland have an extraordinarily high number of patents granted on a per capita basis. By 1973 Japan led the world in the number of patents granted, ahead of the USSR, the USA and the nine countries of the EEC put together. Comparing Japan with the EEC Nine shows that during the decade beginning with 1967, Japanese patents rose from about 62,000 to 136,000 a year, while the EEC Nine declined from 93,000 to less than 75,000. Is it any wonder that Japanese industries managed to out-compete the Europeans in virtually every major area?

At the end of the 1940s, British shipyards built about half of the world's ships. At the end of the 1960s the Japanese did. From personal reports one gathers the impression that the education levels of the two countries were markedly different. At the managerial level, one found virtually no formal higher education among British managers, an occasional HND—the men had come up from practical experience. The yard workers likewise had little in the way of general skills training. Again the emphasis was on practical experience. In contrast, the Japanese had a highly trained and skilled workforce: it was a rare manager who had no higher education, and almost all had advanced engineering degrees. Question: with new technology and new concepts developing all the time, who is more likely to incorporate new ideas and new technology? The British or the Japanese? Is it any wonder that the Japanese rapidly incorporated new design features into their ships and improved their production methods? Japanese ships were built at less cost, were of better quality, and were delivered on time... by the end of the 1970s British shipbuilders were losing tens of millions of pounds annually and survived only at the taxpayers' expense. An educated workforce learns how to exploit new technology; an ignorant one becomes its victim.

Opportunity favours the trained mind. A study by the National Institute of Economic and Social Research concluded that the industry in Britain was "technologically backward". The study points out that about 80 per cent of the machine tool industry labour force in both Britain and West Germany is classed as "skilled". Yet those so classed in Britain have not been required to attend any courses or pass any practical or theoretical tests. Furthermore, in contrast to Germany, financial remuneration is not dependent on the achievement of any certified standard. Similarly, in August of 1980, the *Observer* carried the headline: "UK

Training is West's Worst". Based on a report to the Manpower Services Commission, it points out that up to 44 per cent of young people go into the labour market with no training at all.

Fourteen per cent win an apprenticeship, ten per cent enter full-time vocational training. Less than a third go on to full-time higher education. Contrast this with about two-thirds of US school leavers proceeding to some form of tertiary education, and about half going on to college. In West Germany two-thirds of the men and half of the women on the labour market have vocational qualifications through practical and theoretical training. The French system also gets high marks.

Not only in the West, but in the Third World, education is beginning to be recognised for its economic importance. Farmers with four years of primary education produce about thirteen per cent more than those without education. Between 1950 and 1975, adult literacy in middle-income developing countries rose from 48 to 71 per cent. In low-income countries it rose only from 22 to 38 per cent. The fastest developing countries all had literacy rates above the norm. Literacy contributes to increased output per worker and increased investment. Contrary to popular opinion, educating girls may be one of the best investments a country can make in future economic growth. Even if girls never enter the labour force, it is mothers rather than fathers whose influences are crucial for chil-

dren. In addition, educated women marry later and are more likely to know about family planning. In Brazil, families were better fed the higher the mother's education. A fit work force is more energetic and more adaptable, it is more likely to innovate and accept innovation. The pronounced increases in yield per acre of wheat in England and rice in Japan in the late 19th Century correlate with the introduction of mass education. The continuing increases in productivity correlate with continuing improvements in both education and mass communication. Today the American farmer is perhaps the most productive in the world. He works from an enormous information base which has accumulated over centuries. To utilise it properly he must know about fertilisers and soil conditions, hybrid seeds and crop rotation, insecticides and weed killers, how to select a tractor, drive a combine harvester, maintain farm machinery, haggle with commodity speculators who will pay him for his crop before he plants it.

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Venezuela is one of the most developed countries of the Third World with a highly successful education system. It is a member of OPEC, the Organisation of Petroleum Producing Countries, and has used its oil revenues to develop a high standard of education.

Almost one in three Venezuelans attends school or some other educational institution full-time—more than four million people out of a population of about 13 million.

The Spanish American state has the main responsibility for education, which is free from kindergarten to university level. According to the National Education Law, attendance is compulsory for 11 years. Although there are many private educational establishments, many receive government subsidies and all are supervised by the educational authorities and must be registered with the Ministry of Education.

Nearly 400,000 people are registered in higher education taking full-time courses. Is 71 higher education establishments. There are 19 universities, four polytechnics, six colleges of education, 26 institutes of technology, 12 university colleges and four military academies.

To teach those higher education students there are more than 30,000 lecturers and professors giving an average staff-student ratio of 13 to 1. Twenty-two per cent of Venezuelans aged between 20 and 24 are attending higher education, ranking Venezuela fourteenth in the world, according to UNESCO statistics, with the US in first place and the UK in eighteenth.

In 1980 total educational spending by central government in Venezuela amounted to more than £1,000m, which represents about 20 per cent of total national expenditure—40 per cent of that amount was spent on higher education.

Oiling the way for an educational boom

Depending on the kind of degree awarded, higher education is divided into two levels: the universities and all other higher education institutions.

There are three groups of universities: the old "autonomous" universities; the new "experimental" universities; and the private universities. All are in fact autonomous to a greater or lesser degree.

The oldest university is the Universidad Central de Venezuela, in Caracas, founded in 1721. It has more than 50,000 full-time students. The newest of the old group is the Universidad de Carabobo in Valencia, founded in 1892 and re-opened in 1958 after a long period of closure. This university has almost 40,000 full-time students.

Nine universities belong to the "experimental" group including the Open University founded in 1977. Finally in the private group there are six universities.

The central body for governing the university sector is the National University Council (CNU) made up of the minister of education, who is the president of the council, all the university rectors, three professors and three students, one for each group of universities, two representatives from the National Congress and representatives from the National Research Council and the Ministry of Finance. Apart from that there is a permanent secretary and a director of the University Planning Office (OPSU).

The council supervises legal matters and plans and integrates education, culture and research within the universities. In addition

the council has similar functions to those of the University Grants Committee and the University Central Council on Admissions in Britain. Above all its function is to coordinate and, on the whole, the universities remain autonomous with their own council.

Most of the university authorities are elected by the *Cliastro*, a body made up of all the professors plus a 25 per cent student membership, that is to say one student to every four professors, as well as some ex-graduates. The faculty and the students are represented in all bodies of university government.

All the other higher education institutions are controlled by the Ministry of Education. Even though their directors are appointed by government through different procedures, these institutions are still semi-autonomous and in some ways self-governing.

To coordinate and to advise there is a Higher Education Institutes Council presided over by the Ministry of Education and to which all the Institutes' directors belong. Besides many of the CNU resolutions are adopted by the council.

Overriding of the Venezuelan system, in terms of students already studying and the higher number wishing to study, has made the admission procedure to any higher education institution rather complicated.

Generally speaking, people wanting to enter any institution must first fill out an application form indicating what and where they want to study. Every student is given a

choice of three locations and subjects. This information plus the high school academic record, the year in which the student graduated from high school, his or her socio-economic level, place of residence and, since the beginning of this year, the result achieved in the National Aptitude Exam, is fed into a computer and analysed so that the student is assigned a suitable place.

Last year nearly 100,000 application forms were filled out by students wishing to enter higher education but only about 60,000 of them were allotted places.

The Venezuelan government has for many years paid attention to this situation, and done its best to improve the infrastructure of higher education and develop new opportunities in further education. During the last decade 51 establishments of higher education have been founded. In 1974 the government created a special fellowship programme, the Ayacucho Foundation, with the primary purpose of sending students abroad to get technical undergraduate and postgraduate degrees.

At least 25,000 Venezuelan students have received an award through the Ayacucho Foundation, and about 1,500 of them are taking courses in Britain.

Nevertheless, due to the youth of the Venezuelan population and their wish to improve their social and cultural status, the problem still remains and will take a great deal of time to solve. It is a difficult problem to solve at any time almost anywhere.

Iván Olaiola D'Alessandro

The author is a former permanent secretary of Venezuela's National Universities Council and is currently researching Britain's education system.

Academic freedom in Israel

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academic faculty possess the unqualified and full right of academic freedom in all their academic activities. The university will encourage this freedom which is a necessary condition to the existence of an institution that is open to teaching, research, and to the development of new ideas. Academic freedom is accompanied by academic responsibility without which full and free university life is impossible.

Moreover, paragraph 5 of these constitutional regulations makes these general provisions applicable specifically to the process of appointment, promotion and the receipt of tenure by providing:

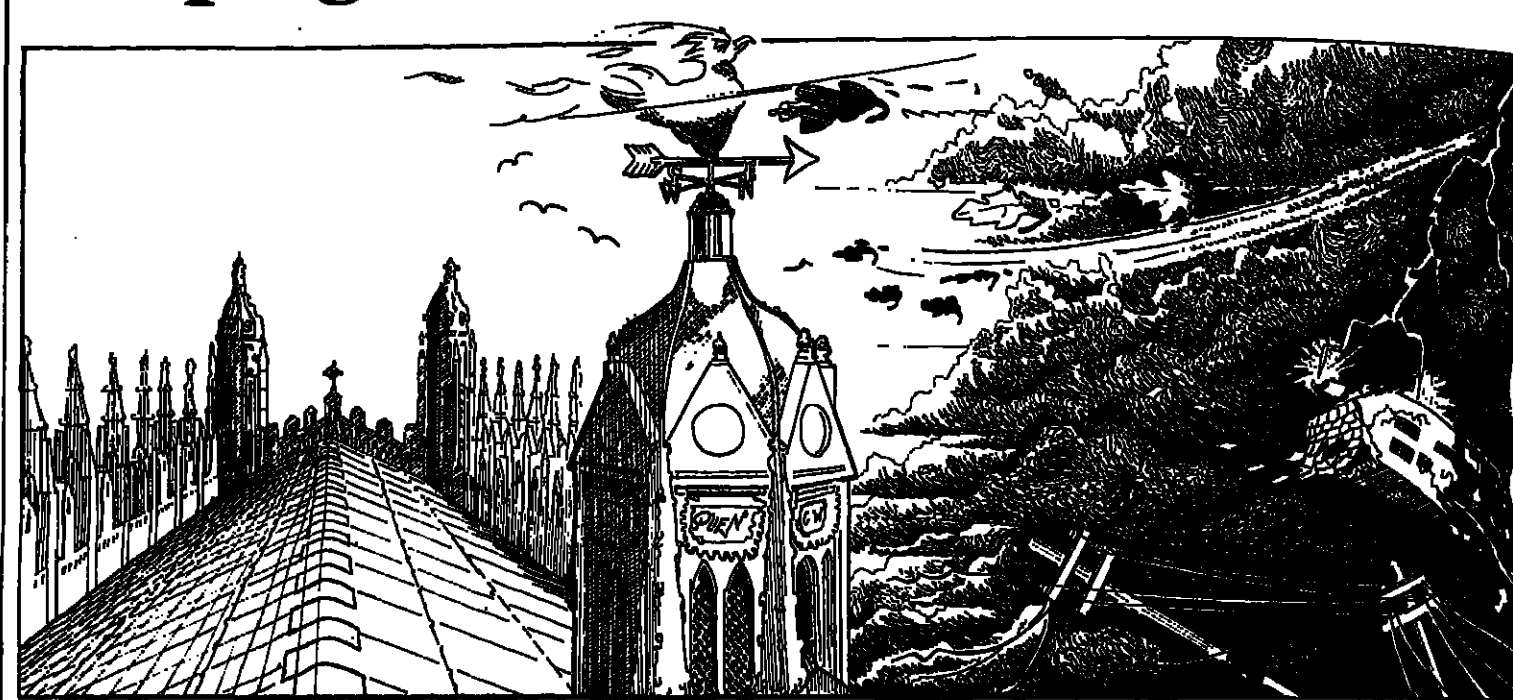
"A member of the academic faculty will be appointed, promoted and will receive tenure according to the provisions of the constitutional regulations of the university concerning appointments, provided that such provisions shall not limit freedom of thought and conscience. Candidates for appointment, promotion, or receipt of tenure shall not be discriminated against because of their social or political views, their religion, their national or ethnic origin, or their sex."

In summary, it can be said that the freedom of academic institutions from governmental intervention is guaranteed by law and internal application of the principle of academic freedom within the universities is assured by their own constitutional documents. The untested acceptance of this approach finds further expression in Israel's pending civil rights bill which provides, *inter alia*, that "every person is entitled to freedom of research and scientific, literary and artistic endeavour." While the protection of academic freedom is thus well entrenched and guarded in principle and practice, the content of that freedom has raised problems. Traditionally, as we have indicated, Israel's academic institutions have given expression to the widest concept of academic freedom. University staff have been considered entitled not only to freedom of teaching, research and learning, but also to freedom of extramural political activities.

There is perhaps room to question whether in theory such freedom of extramural activities unrelated to a faculty member's professional role as teacher and scholar, forms an integral and essential part of the concept of academic freedom. No such freedom was protected under the traditional nineteenth century German concepts. Yet the freedom of extramural activities has been included in academic freedom as that concept has been developed in the twentieth century in the United States. Theoretical doubt may be compounded when extramural activities are such that they may be injurious both to the image of the university and to the country. Drawing the proper limits of behaviour in such cases is not easy, especially where university staff expect their university title and position in pursuance of these extramural activities. Nevertheless, we tend to believe that the Israeli universities have acted correctly in not allowing considerations of extramural activities to enter into the factors determining the appointment and promotion of staff. The potential danger of incorporating such considerations in the universities' appointment and promotion procedures would outweigh, in our view, even the very real discomfort which results from excluding them.

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Keeping the faculties intact



Little systematic examination seems to have been undertaken recently of resource allocation procedures within British universities, despite the evident importance of these in present financial circumstances. This appears to be true whether one thinks in terms of resource allocation formulae or in terms of constitutional arrangements. The report of the working group set up by the Conference of University Administrators which is currently considering these matters is therefore awaited with considerable interest. What, for example, have been the effects of the economic pressures of the last few years on the structural and constitutional arrangements for resource allocation, and what are the likely developments in the future?

In the period since the Robbins Report resource allocation within British universities has typically been based on a Finance Committee of Court or Council, and a planning or development committee of senate. The finance committee will be generally responsible for the university's overall finances, will be a fairly small body, say sometimes as few as six people, rarely more than 15, including lay and academic members, and frequently convened by a lay member of the governing body. The planning or development committee of Senate will be somewhat larger, say 12 to 25 members, will almost always be entirely composed of academic staff, and usually convened by the principal or vice-chancellor. In some universities this academic committee will have a forward planning function as well as a resource allocation function.

The relationship between these committees is of course of considerable importance and interest. It seems likely that in the period since Robbins, when we have witnessed a considerable expansion of universities, a considerable increase in their complexity, and a much greater degree of participation by development committees, the academic one, has achieved or acquired a significantly greater degree of influence, if not of power and independence. This is certainly true in Edinburgh, where since about the mid-1960s, the educational policy committee, a committee of Senate, has effectively had complete control over the 70 per cent or so of the university's budget devoted to academic purposes.

In the mid- and late-1960s, of course, resource allocation meant in practice deciding which parts of the university should benefit, or benefit most, from the additional funds becoming available. Since about 1973 or 1974 things have been rather different: less money has been available, and the planning horizon has been much longer and much nearer, and it is clear from studies now being carried out by the CUA Group that the different economic circumstances of the last six or seven years have put universities' resource allocation procedures, both in a technical sense and in a constitutional sense, under considerable strain. That process seems likely to continue, and it may be opportune for us at least to ask the question: "Are our resource allocation procedures of the past 15 years likely to require adjustment to meet the

John Suddaby examines some constitutional aspects of resource allocation in universities.

changed situation of the 1980s?" or, looking at the problem from a slightly different angle: "Would our universities benefit from changes in resource allocation procedures?"

The cold winds of the mid-1970s which struck the British universities sprang up with remarkable suddenness, or perhaps one should say that our weather forecasting systems were not very good at detecting them until they were almost upon us. There is not much doubt that many British universities, perhaps even the vast majority of them, responded to the emergency by emergency measures: positive resource allocations came to an abrupt end, freezes were imposed, and the unwelcome, unpleasant, and often unplanned task of dealing with the new climate was thrust upon the principal or vice-chancellor and a very small number of senior academic and administrative colleagues. In other words, the principal and one or two vice-principals, with the secretary or registrar, were empowered to decide whether vacant posts should be filled and where the axe would fall, or fall first.

That was the immediate reaction in many places, and it was understandable, perhaps reasonable, if also perhaps insensitive. We have now learnt to live with the squeeze; how has the changed situation affected our planning procedures? What should be our continuing response?

It seems that in some universities the arrangements under which the vice-chancellor and his immediate entourage assumed far-reaching emergency powers have persisted and acquired a degree of respectability and permanence. It would be interesting to discover whether the universities in which this has happened are those in which more prosperous days resource allocation was highly structured and closely tied to formulae-driven mechanisms: it does seem likely that the more procedural, the more dependent on formulae which assumed or implied positive allocations and a degree of continuity than the harder it will be to adapt to steady state.

I suggest that this restriction of influence in resource allocation, though understandable in an emergency, is not a necessary feature of the continuing pressure of life in the 1980s. Increasingly, UGC pronouncements about university funding, whether in the form of guidance or dictat, are being treated as public material. At Edinburgh, most UGC letters on planning and finance over the past three to five years have been made available to all members of the university, and for that matter to the world at large, through the medium of the university's bulletin - often verbatim, or if not in the form of very full summaries. This policy has no doubt reflected the feeling that members of the university at all levels, who are all being affected in one way or another by financial stringencies, will accept what is happening if they are informed of the background to it, and the reasons

behind it, even if, perhaps especially if, the number of people actively involved in resource allocation procedures is bound to be quite small.

There has of course been unhappiness at the measures universities have taken in recent years; there have been complaints and criticism. It seems probable all the same that the frustration and the anger have been very much less than might have been feared if 10 years ago one had been told that over a relative short period - say one old quinquennium - universities would swing from expansion and relative comfort to restriction and austerity. If this is due to the fact that university staff have understood what was happening and what were the relative roles of the universities, UGC and Government in these changes, that seems to imply that universities should continue to keep information and consultation flowing as widely as possible as they cope with the continuing problems of the 1980s.

It is to be hoped therefore that universities will resist the temptation to concentrate resource allocation in fewer hands and that those universities which have found it necessary to create emergency machinery to deal with possible to get back to more "normal" and "constitutional" arrangements. This is not to say that these arrangements will necessarily or desirably be those of the early 1970s. Indeed the need for a more flexible, more radical, approach might imply a need for new resource allocation procedures.

One of the rather obvious ways of classifying allocation systems - but none the less interesting for being obviously - is to divide universities using highly centralised procedures from those employing devolved systems. In a centralised procedure, allocations are made direct from some central body to individual academic departments (often for specified posts or purposes), while in a devolved system allocations are made from the centre to a faculty or some other intermediate level, and that intermediate body is responsible for allocations to departments.

Over of course is something of an over-simplification, and many variations are possible; while within either system the degree of vivacity (which is another question) may be large or small.

Among the eight Scottish universities, both centralised and devolved systems are represented. At one university, a committee essentially of faculties and departments, and to a handful of academic services and committees. Faculties claim of their departments. In using that such allocations may be positive or negative! It does seem that that committee has a somewhat easier task than the committee at another university which allocates direct to some 50

academic departments as well as to other spending units. "Easier", of course is not the same as "more just" or "more efficient". But it seems proper to ask whether a centralised or a devolved system is more likely to achieve the degree of flexibility, redirection, redistribution (both academic and financial) which a university desires. Is there merit in a powerful central body well supplied with relevant information, taking a wide strategic view, consulting widely no doubt, but eventually taking quite detailed decisions on priorities, or is it preferable to have a central body giving general guidance, exercising influence, perhaps controlling strategy, but leaving the details to be dealt with essentially by those more directly involved? Whatever the constitutional machinery, administrative staff will have an important part to play, not as providers of information but as advisers - the only fairly distinctive ones - in those bodies which bear the ultimate responsibility.

It seems necessary to end on a political note. Last October, the chairman of the UGC spoke to the Committee of Vice-Chancellors and Principals. In the light of what was said on that occasion and of later developments, it seems too probable that the background to discussion of this kind will look very different by mid-1981. Dr Parkes said:

"The freeing of resources for new developments cannot be accomplished solely as a local operation. This is not to say that universities should not be engaged in critical self-examination, but that it is not adequate, as some vice-chancellors might wish, to say to the UGC 'we will sort out our own priorities and we will sort out our own priorities and we will sort out our own priorities'. The reason why this won't work is precisely the same as in the days of expansion. The sum of a set of local aspirations may not form a sensible overall picture for the system and the students who wish to enter it."

There is going to be in the future a somewhat greater degree of direct intervention by the UGC in the affairs of individual universities than has been customary in recent years in the past.

To be fair to Dr Parkes, he made it quite clear that he hoped and expected that this "intervention" would be part in the nature of collaboration between staff in universities, with the reasoning behind the UGC committee will all hope that intervention in their own universities will be minimized. As the UGC hopes to contain government interference in the university system by being seen to be seen as a whole in ensuring that public money is being used to the best possible advantage, so perhaps each university may hope that UGC involvement may be forestalled by putting its house in order. But the task facing public money and individual universities is just as difficult, and probably even more extensive than, the task facing Dr Parkes.

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Modern Languages in the Curriculum by Eric Hawkins
Cambridge University Press, £9.50 and £4.95
ISBN 0 521 23211 2 and 29871 7

by Phillip Thody

At the beginning of his second chapter, "Why a foreign language for all?", Eric Hawkins quotes a remark which Dr T. Quinn, of Monash University, made in 1974: "The legitimacy of studying foreign languages in the schools is being questioned on all sides... I am afraid we must say that ours is a failure-ridden discipline." And not only in Australia, as many a hard-working but disillusioned teacher of French or German in this country can bear witness, and not only in the schools. If I had a shilling for every elementary mistake of grammar, spelling and gender that I have had to correct in final honours papers, I should be a very rich man. We do fail, in what both we and the outside world see as a legitimate and desirable ambition: to enable our young people to speak and write a modern foreign language with a reasonable degree of accuracy. For one O level candidate who can order a meal in a French restaurant, or for one honours graduate who can discuss contemporary French or German politics with moderate fluency in the language of a country, there must be a good half dozen who can merely blush or stammer.

Yet I will begin with my one criticism of this long-awaited, well-argued and fascinating book, and repeat a question which I asked only by implication when I last sounded off about the state of language learning in our universities in these columns last July. For I have always wondered, as I contemplate my own failure as a teacher in the form of the howlers which my finalists are still making two months before the end of their course, whether we modern language teachers are all that much less successful than our colleagues in, say, geography or mathematics. I know that the teachers in medical schools make silk purses out of silk, and a good thing too for those of us who want to survive. But are there never candidates for honours degrees in geography who think that the Amazon is in Siberia, or final-year mathematicians who divide 330 by 15 and get 1947?

Eric Hawkins certainly makes an excellent point when he observes that the difficulty of the foreign language task is "aggravated by the rigorous test by which success is measured, a test unique to language learning, namely by comparison with the native speaker." But it would have been interesting for him to tell us whether, in the other school subjects, where, as he observes, the model is always one who has acquired his skills by the same route that the pupil must make, teachers do also share the impression of teaching "a failure-ridden discipline". I shudder to think of my Latin master rotating in his grave at my constant inability to construe even the simplest sentences from Caesar, and to remember the occasional local difficulty when the maths master daily reminded me how to do them.

Professor Hawkins nevertheless makes up for this one omission of comparison with other disciplines by drawing our attention to the extremely valuable work which David Rowlands has done in devising, for modern languages, "graded test models" based on the eight grades available for girls and boys studying the piano or the violin. One of the great problems, now that the establishment of comprehensive schools means that modern languages are no longer studied only by the able few, is that of providing incentives for younger learners, especially in the difficult third year (age 13 plus), where so many pupils begin the process of dropping out of French classes.

As Professor Hawkins points out, no other subject had to make such an abrupt adjustment as modern lan-

guages when the "drift into comprehensive education" really began to affect the schools. While they had been traditionally the preserve of the elite, all other subjects had been offered to a whole range of aptitudes. No wonder there are still problems in encouraging all young people, and especially boys, to keep up the study of foreign languages, just when the impact of adolescence reduces the child's "ability to see the world from someone else's point of view" and heightens the desire of both sexes to conform to what they regard as the desirable stereotype for their newly discovered sexual and social roles.

In such a world, incentives are particularly needed from outside the classroom, and I hope that it will not be only modern language teachers who will applaud the suggestion that the training courses and examinations prescribed by the governing bodies of the professional organizations in the United Kingdom should "include an ancillary language requirement". For, as Professor Hawkins very sensibly observes, "Until the aspiring accountant is required by his professional body to show evidence of modern language skills, the exhortations of individuals will count for little".

Professor Hawkins also rightly deplores the way in which the competition among universities for enough suitably qualified applicants in science has led them to drop their requirement that everyone should have a pass in a modern language, and is understandably pessimistic that we shall do anything about it. Instead, he suggests that the "best hope is that the DES may introduce minimum requirements for award of statutory grants for students, and that a pass in a modern language will therefore become - like English and mathematics for students receiving a statutory grant to enter a teacher training course - a nationally imposed requirement. Reluctant though one may be to countenance yet another intrusion of central government into the private life of its citizens and the education of its young people, there is nevertheless some very satisfactory to be drawn from the prospect that the traditional refusal of the English to learn foreign languages is being appropriately punished by an increase in an essentially continental style of centralized, bureaucratic control.

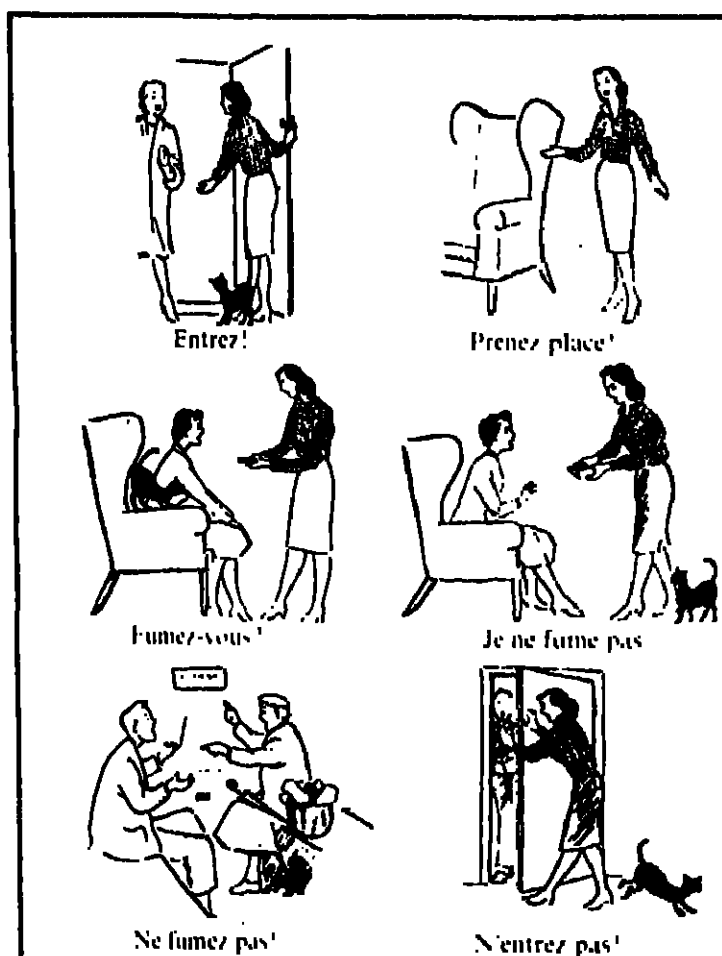
The universities in general do not come very well out of Professor Hawkins's book, and their disservice to the teaching of modern languages is not limited to their sale of the pass over formal entrance requirements. They have consistently neglected what Professor Hawkins sees as the very useful science of phonetics, and have rarely developed a "respectable academic interest" in the actual teaching of languages. In spite of my own reservations about phonetics (of which more later), I fully endorse his general point, and have only one addition to make to his description of modern language degree courses in the 1930s.

It was as if the university teachers were concerned only with a selection procedure, which would produce a few graduates in their own image each year. The needs of the 90 per cent of language graduates who would not stay on at the university to research but would go out into secondary schools or into commerce, industry, journalism or administration, were scarcely considered. It still happens.

Neither do I think that the department in which I work is the only one where prose and translation are classified for time-tableing purposes as "chores". The application is understandable, and only half ironic, since most university teachers of modern languages are not in fact appointed for their language ability at all. Whether this ought to be changed or not is an interesting and difficult question, for it could surely be argued that I ought not to receive the same salary as a professor of history or physics merely on the grounds that I can perform at a slightly higher level a task that hundreds of schoolmasters discharge with sometimes greater efficiency. A university

BOOKS

The teaching of modern languages



Leçon Un, from Joseph Harvard's *Beginners' French* (Hodder & Stoughton).

teacher of modern languages expects to concern himself with what Professor Hawkins calls "wisdom" rather than "skillfulness", or with what I would prefer to think of as the ability to analyse rather than to perform. Up to now, she or he has rarely been expected to show an ability to perform. I had an elegant chat in French with the committee which appointed me to my first job, but have been promoted since then almost exclusively on my ability to write about French literature in English.

I agree with Eric Hawkins that we have rather got the balance wrong in universities up to now, and that we need to look more carefully and more critically at our priorities. In other words, we shall have to spend less time on the Radio 3-like activities of literary criticism and intellectual history, and more on the practical teaching of Radio 4-type binary language. I should also be happy to fall in with another suggestion and take part in the "free circulation" of staff between the schools and the universities which takes place in other countries but not in Britain. This would remove the smirk from my face as I discovered my inability both to control the lower fourth and to teach them which verbs to conjugate with *avoir* and which with *être*.

Neither do I think that the normal intellectual level in my literary tutorials would be dramatically lowered if the proposal made as long ago as 1918 by the Leathes report were put into practice and the livelier schoolteachers were given the opportunity of working for a spell in university departments of language and literature. Having seen at first hand how very hard many schoolteachers work - and being daily reminded by the spectacle of certain of my colleagues of how very little we some of them make of the facilities to do research made available to them in universities - I should be only too delighted to see the former presented with the opportunities neglected by the latter.

Modern Languages in the Curriculum is indeed an admirable book: on the side of the angels without floating off into the clouds, full of practical hints yet constantly aware of wider issues, challenging without being unnecessarily provocative and presenting issues in a historical context without neglecting the immediate problems of the present day. Professor Hawkins is very good on how the euphoria of the 1960s has given way to a much more sober atmosphere in the 1970s, and his

account of the pros and cons in the French for primary schools controversy is a model of balanced presentation which never dulls the issues. Although I turn daily to Mecca to give thanks that I do not have to earn my bread and cheese by teaching foreign languages to the "slower learner" I was fascinated by the case which Professor Hawkins puts forward for other people doing it. For if there are indeed 11-year-olds who do not really know the names of the days of the week or the months of the year in English, then there is an odd but unwelcome case for enabling this knowledge to be acquired, through French, Spanish or German, without too much loss of linguistic or social face. And even a man as far to the right of Louis XIV as I am would not wish to follow the example of the lunatics of the left who, in the 1960s, used to see "any attempt to teach a (foreign) language to working-class children as unjustified since it challenges, as in some way inadequate, the culture of the home and the peer group."

On the contrary, as Professor Hawkins very cogently argues, the learning of a foreign language is a profoundly liberating experience, and a democratic one in the best sense of the word. For what it imparts is a salutary agnosticism as to the inevitable rightness of parochial ways of thinking as well as of speaking or writing. And although Professor Hawkins does not himself use the phrase "the strangling of French", the case which he puts for making Italian, German or Spanish the first foreign language for English-speaking children is quite riveting.

The teaching of foreign languages probably has a longer list of nostrums and quick remedies to its credit than any other academic subject. Professor Hawkins lists them in Appendix D. "Some names of the game" and also has a splendid section on the method known, quite literally, as "suggestology". As one whose first year of grammar-school French was based so firmly on the then prevailing ideology of phonetics that I was convinced that the French actually wrote their language in phonetic script, I feel a slight surprise at the enthusiasm with which Professor Hawkins endorses this particular method. Even later, as I was beginning to mouth some real French, I found it more inhibiting than helpful to be reminded of glottal stops and palatals, especially as most of the phoneticists I met seemed to suffer from some kind of speech defect.

I now attribute it not to the fact that science attracts more men because of its more obvious career prospects, but to a more general factor that I hinted at earlier: the unintentional influence of the educational planners who decided to put girls and boys together in the same school at the very moment when puberty strikes hardest. One of the additional merits of this book is that the questions which it raises about education are not all directly linked with the apparently narrow question of whether our traditional monolingualism can best be cured by phonetics or suggestology.

Professor Hawkins seems to me to have a much better solution to the problem of "gardeners in a gale" in what he calls the "total immersion" method. Although oddly difficult to translate into most of the major European languages, his gardening image is very appropriate to describe the problem of the foreign language teacher who, having planted a few seedlings of French or German, has to leave his pupils to be "swept along by a gale of English, listening to different teachers, reading specialist textbooks, asking for more custard with lunch-time pudding, surviving among playground witicisms, shouting in the games field, gossiping on the bus going home, relaxing in front of the telly." No wonder we all prefer a system whereby the learner is totally immersed in the foreign language for a longish period, and the experience which my colleagues and I have had since 1972 here in Leeds in our biennial eleven-day courses in administrative French for senior civil servants certainly confirms the enthusiasm which Professor Hawkins has for such methods.

For when we isolate our Assistant Secretaries, our Principals, our Counsellors grade 9 and our specialists in fisheries negotiations or Common Market wheat prices from the normally unglorious atmosphere of North Leeds and compel them to talk and study French all the time, they do make very satisfying progress. We do not, then, feel we belong to a "failure-ridden discipline", though I must admit that it is sometimes a bit of a comedown to find ourselves confronted the following week with undergraduates who have been reduced by full exposure to the gales of English over the years to a state of linguistic apathy. But total immersion, as Professor Hawkins realizes, is not always possible, and is also by no means the only method of improving our own and our charges' performance. His Appendix C, outlining a "secondary school course in awareness of language" is an admirable example of how the study of modern languages can make girls and boys more aware of how different communication systems work.

Here again, I was delighted to see that Yorkshire still rules, since a course with similar objectives is already in existence at Leeds Grammar School, and may well also be found outside the county in whose capital city of York Professor Hawkins provided such inspiring teaching and leadership. His book is, from this point of view, more the encapsulation of a lifetime's experience in teaching modern languages. It is a volume which every language teacher, whether in school or at a university, ought to possess, as well as a work which all politicians and educational administrators should read as well.

As I read the statistics showing how many more girls than boys there are studying foreign languages, I began to wonder whether this mirror image of the situation in science is not also a consequence of our failure to realize in advance just how disastrously education was going to affect the attitude which pupils have to the actual curriculum. I cannot be the only "alarmed" university selector who wonders whether the supply of men applicants for degree courses in French might dry up altogether. But I may, at the moment, thanks to Eric Hawkins's book, be one of the few to place the blame for this state of affairs where it really lies.

I now attribute it not to the fact that science attracts more men because of its more obvious career prospects, but to a more general factor that I hinted at earlier: the unintentional influence of the educational planners who decided to put girls and boys together in the same school at the very moment when puberty strikes hardest. One of the additional merits of this book is that the questions which it raises about education are not all directly linked with the apparently narrow question of whether our traditional monolingualism can best be cured by phonetics or suggestology.

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Editor: Professor F.G. Jacobs

In 1982 Oxford University Press will launch a new annual publication. The *Yearbook of European Law* will publish substantial articles, of permanent legal interest, in the English language. The Yearbook will concentrate on the law of the European Community but it will also include contributions on other areas of 'transnational law' in Europe; for example, the European Convention on Human Rights and the European Social Charter.

The United Kingdom Association for European Law has generously agreed to donate a prize of £500 which will be awarded for the best contribution by an author under the age of forty. Further details of the prize may be obtained from Professor Jacobs or from the Law Editor, Oxford University Press, Walton Street, Oxford OX2 8DP. All contributions should be sent by 30 September 1981, to Professor Jacobs at the Faculty of Laws, Kings College, Strand, London WC2R 2LS.

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T.C. Hartley

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BOOKS

The power of the papacy

The Popes and European Revolution
by Owen Chadwick
Clarendon Press: Oxford University
Press, £28.00
ISBN 0 19 826919 6

The general plan for the Oxford History of the Christian Church, of which Professor Chadwick's sumptuous volume forms a part, is almost as obscure as that of Providence itself: but if its blessings, covenanted or uncovenanted, include many contributions as good as this, doubtless the best of the many good volumes to come from the author's pen, all will be forgiven.

The title of this book may mislead; only the last quarter is given up to a sprightly discussion of the impact of the French Revolution and the Restoration upon the Roman Catholic church. The preface explains that eighteenth-century France is omitted for treatment by another hand, and it is impossible to guess what other cogent matters are intended for other volumes. The footnote system creates a remarkable paper chase via the index to the critical bibliography, a paper chase whose excitement is enhanced by references like that to Payer who appears in the bibliography but not in the index, and to Heer whose name is misspelled and hence misplaced in the index.

But, with it all, the book is a splendid and highly individual achievement, devoted primarily to social history of eighteenth-century Catholicism of a sort not to be found elsewhere, skilfully constructed in the author's characteristic way; a mosaic of fascinating fragments presented in a succession of short and simple sentences, machine-gun style; the vigour of the presentation contrasting piquantly not merely with the torpor of much of the matter, but also with the genial approving urbanity of the tone. Professor Chadwick loves his Barchester, and delights to find the gentler qualities of that decaying cathedral town all over Catholic Europe.

His refusal to discuss the subject in terms of models or general theories is amply justified by the higgledy-piggledy nature of his theme. If there is a quality lacking in his make-up it is that of righteous indignation; there is no mention of the dirty gongole among the Togenburgers, the bishop in Salzburg, Bohemia, Silesia and

Hungary, which did so much to confirm the darkest suspicions of Protestant Europe, are compressed to a few lines. Peasant religion seems to him on the whole quaint, and he thinks the church right to take it on board, especially as in places it can be shown that "the people were more papist" than the Jesuits. Chadwick is indeed exceedingly benign to the Jesuits, who no doubt deserve his charity; he presents the assaults on them by the Catholic powers of Europe as a series of historical accidents, the motor of which was the most dubious of European qualities, expansion at the expense of colonial peoples; but the Jesuits were never numerous enough to justify the hysteria of Protestant populations about them, and that great Protestant realist, Frederick the Great, knew he was risking little in becoming their defender against the thunderbolts of the lay and spiritual heads of the Catholic world.

Perhaps more remarkable in an Anglican assessment of eighteenth-century Catholicism is that the general treatment is pro-papal and anti-episcopal in the sense that both sympathy and treatment are concentrated on the central rather than the local authorities of the church. The Popes are presented as good men—in a few cases, very good men—honestly walking the tightrope between French and Austrian power as long as it existed, and when the two combined to remove the tightrope, then genteelly selling the church's special privileges to Catholic states, in order to preserve the peace of the faithful. If Professor Chadwick's way of doing things adds to the cohesion of his story, it leads to one oddity and one lacuna in the treatment. He clearly thinks it was regrettable that the Papacy had to depend on the aristocratic prince-bishops of Germany to dam back the Protestant tide, though it is not clear that they represented a different kind of authority from any of the others in his gallery; and there is no treatment of the way the international balance of power was exemplified in the college of cardinals of the kind memorably attempted by Christoph Weber.

It would be possible to garnish endless reviews with the incidental entertainment the author provides *en route*, with the contraceptive pills of the eighteenth century, the bishop afraid to return to his see, the bishop

whose throat was cut by brigands, the embarrassments arising from the popular attribution of *virus sacrum* to objects and offices. There is not a dull page in this very large volume. The entertainment, however, ought not to obscure the fundamental challenge of the method. The German tradition in church history is heavily weighted towards theology, and the theology hardly comes into the story. Theologians do; and they appear as doctrinaire defenders of political causes, rightly and roughly treated by men of the world on whose practical compromises the maintenance of Europe depended. Spiritual writers do a little better, but not much; their importance is that they provided wisdom for use in the confessional, and that the faithful depended, so far as they did not depend on their understanding of the faith on contact with the courts and administrative arrangements of the church.

The sacraments, the modern nostrum for those of Catholic inclinations (like the theologians), come in rather on the wings, the really indispensable ones being those of confession and marriage which must be kept going even in an interdict. Ideas too play a remarkably small role. Enlightenment appears briefly after 400 pages, with the explanation (all necessary after the calamities of the nineteenth century) that the Catholic *Aufklärer* were perfectly good Catholics simply wanting reform, but with the implication that despite their doctrinaire haste, they were not over-indebted to new ideas. There is, to sum up, not much here of what appears in so many of his labours as the "history and theology of the church".

But what else could Professor Chadwick say? When the Revolution took off the lid the faithful fought furiously for some things while abandoning a large part of the mechanism and endowments of religious life without a scruple; and the year the Pope got was one in which the Papacy immensely outweighed the importance the local authorities of the church. Urban as he is, Professor Chadwick delivers a challenge to the established ways of thinking about the history of the church and the faith which would not all be palatable in the close at Barchester.

W. R. Ward

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Illuminating a phenomenon

The World of Franz Kafka
edited by J. P. Stern
Weidenfeld & Nicolson, £9.95
ISBN 0 297 77845 5

The enduring fascination of Franz Kafka's work derives from the paradox that such an obsessively subjective writer could reflect and echo so uncannily the general social, political, psychological and religious crises of the twentieth century. Amid the cacophonous claims to objective truth made by rival ideologies, the quiet but persistently sceptical voice of this isolated Prague Jew has crossed linguistic and cultural frontiers with such astonishing ease that his name has become a universal label for a malaise which far transcends purely literary concerns.

Professor Stern's richly illustrated compendium attempts to illuminate and celebrate this extraordinary phenomenon. His book does not offer much that is particularly new, indeed, of the 28 contributions of already appearing elsewhere, it not all in English, and some of those over twenty years ago. Nor does it survey the present state of Kafka scholarship. Stern's eclectic method is aimed more at the general English-speaking reader.

The volume is divided into three sections. The first part examines the biographical data and the localities which provided Kafka with significant and concrete points of reference,

Allan Blunden sets the tone with an admirably sober and succinct chronology of Kafka's life. The ambience of contemporary Prague, a provincial city of Czechs, Germans and Jews, in which the latter played a special role as standard-bearers of German culture, is neatly assessed by F. W. Carter, while the Zionist Felix Weltsch, classmate of both Max Brod and Kafka, discusses the latter in the critical context of the "Rise and Fall of the Jewish-German Symbiosis". Klaus Wagenbach contributes an interesting description of the village of Osek and its "heaviness", where Kafka's father was born and which was the prime source of most of the latter's oppressively moralizing anecdotes—a welcome reminder of the social reality which informs the fictional world of Kafka's last novel.

Part two presents a variety of interpretative approaches to Kafka and their attendant difficulties. The best are those which keep the text firmly in view. Martin Walser's acute analyses of Kafka's narrative technique, Roy Pascal's restrained discussion of paradoxical elements in the parables, Anthony Thorby's perceptive remarks on the metaphorical nature of language and Walter Sokel's rehearsal of an enigmatic Freudian approach can all be read with profit. Equally useful is Joyce Kilmer's essay on the Milne's pioneering translations which indicates how deeply the English reception of Kafka has been coloured by their work. Their opting for the "natural surface" rather than the "unfamiliar undercurrent" together with their unavoidable reliance on

Max Brod's enthusiastic but far from scholarly editing, led them to reduce *The Trial* and *The Castle*, for example, to narrow literary allegories. This central section ends with a rather perfunctory series of abbreviated criticisms from the German Left—Benjamin, Brecht, Lukács—and the sharply negative conclusion of a book first published in 1946 by Günther Anders.

It is a pity that the serious issues raised by such dissenting voices are not explored more thoroughly, perhaps at the expense of some of the more ephemeral items brought together in the book's final section. "Fictions and Semi-Fictions", where two dull poems by D. J. Enright and Jerry Feuerkiewicz and a slightly incoherent air of literature feeding on literature are partly offset by reprinting of Philip Roth's witty and very Jewish evocation of an elderly Dr Kafka as an obscure refugee from the Holocaust (which swallowed up his sisters) who eked out a living as a teacher of Hebrew in Newark, New Jersey.

This is an elegantly produced book which is a tribute to the strange affliction Kafka so frequently inspired in his readers, but despite its title it does not claim to have entirely unlocked the "unique" writer's "world". It is, however, a very welcome addition to the Kafka canon: "There is always something left unaccounted for". Happily.

Michael Butler

Dr Butler is senior lecturer in German at the University of Birmingham.

BOOKS

Brecht's stagecraft

Brecht
by Jan Needle and Peter Thomson
Blackwell, £9.00
ISBN 0 631 19610 2

Jan Needle and Peter Thomson's *Brecht* stands out from the bulk of contemporary criticism on Brecht's work—and books on him are currently appearing at the rate of about ten a year—largely by virtue of two particular features. First, it is intended primarily for those who have read their Brecht and their Brecht criticism in English. And second, its authors have a palpably practical sense of the theatre: Jan Needle is himself a playwright and Peter Thomson teaches drama at Exeter University.

The first of these two features, while theoretically welcome given the rampant misunderstanding of Brecht in this country, in practice accounts for some of the less successful aspects of the book, as well as some of its fresher insights. The authors' stage experience and sense of drama, on the other hand, invariably stand their study in good stead and make it one of the more valuable detailed contributions to our appreciation of Brecht's craftsmanship in any language.

Needle and Thomson are perhaps right in their assumption that the prevailing English view of Brecht is still substantially conditioned by a combination of newspaper reviews of individual performances and the relatively early works on him by Esslin and Gryn. Yet while their introductory exploration of "The Phenomenon of Brecht" remains a hard-hitting indictment of Brecht-reception in the English press and hence a justification for the present volume, it is a little too convenient to equate the "phenomenon" with just one culture's reception of it. A recurrent preoccupation with what are generally, at least since the publication of the

Arbeitsjournal, taken to be somewhat eccentric interpretations of Brecht's Marxism, again suggests that writing for the English context is not without its hazards. Specifically, addressing those without German, though, surely need not entail sharing their standpoint; it would have been helpful to have had some indication of the substantial achievements of foreign Brecht scholarship during the past decade or so.

Nevertheless, even if such an approach has its limitations, and even if "Brecht" becomes simply "Brecht the dramatist", it is a price worth paying for the freshness of the resolute judgments and the geographical *Verbreitung* of the subject which it affords.

One of the main contentions of this study is that an appreciation of Brecht's practice will be enhanced by an evaluation of his theories. Yet the chapter on Brecht's "theory of theatrical performance", which rightly refuses to "tidily up" Brecht's occasional writings on the subject, remains somewhat selective. Such issues as the theatrical "Gestus" and the role of emotions are helpfully elucidated, but alienation itself and the centrality of dialectics to Brechtian theatre are only two of the aspects about which the reader will not be well informed.

However, the excellent detailed analysis of individual sequences in *Mother Courage*, assessing stage-effectiveness within the rhythm of the overall action, is one of the best things to have appeared on Brecht for a long time. And it is for this sense of theatrical values, both here and in the volume as a whole, that readers are most likely to be grateful to Needle and Thomson.

J. J. White

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Why no one voted

European Elections and British Politics
by David Butler and David Marquand
Longman, £9.95 and £4.95
ISBN 0 582 29528 9 and 29529 7

The most striking feature of the election of the British members of the European Parliament in 1979 was the gap between idea and reality. The idea of a directly elected European Parliament is an exciting and bold one. Considered in historical perspective it appears almost revolutionary. The reality, at least as far as Britain was concerned, was profoundly dull and dispiriting. After a superficial campaign, a mere 32 per cent of the electorate went to the polls, sending a curiously unbalanced delegation to Strasbourg, a group containing hardly a single politician of any weight.

David Butler and David Marquand, in their new book, describe this strange election at some length. After a brief account of the European Parliament, the reader is taken through the successive decisions by the House of Commons on the way the election was to be conducted, and then informed of the way the parties selected their candidates, the social and political background of the candidates, the campaigns at the national and constituency levels, and of course the results. For good measure there is an account of the budgetary dispute that occupied the newly elected European Parliament during its early meetings, and a statistical appendix on the results of the election.

Given the anomic character of the election, one inevitably wonders whether such an extensive study of it can be justified. The authors argue that the election was vitally important because of its profound impact on the established political processes of the United Kingdom. The election has had, they assert, repercussions throughout the political system, and they conclude their introduction by

saying that they will offer "some analysis of the implications of this whole venture for the conduct of British politics". In fact there is not much analysis of this kind, and in so far as it is attempted, it takes the form more of speculative questions about the future than of an assessment of major changes that have in fact occurred.

The thesis of a profound modification of the British political structure is thus not substantiated, and the book is basically an account of the organization and dénouement of a non-event. Why, one asks, was it a non-event? As the book makes plain, there were several reasons. There was too little time for candidates to become acquainted with their large, new, artificial constituencies. There was no government to be elected. Above all, the European election suffered from coming only a month after the General Election of May 1979. The words of successful Conservative Europeanists, dated in the book, list the crippling disadvantages of this bad timing:

(a) the bathos of yet another campaign following the Conservative general election victory; (b) the difficulty of mobilising party workers (many, esp. Y.C., take leave for elections, and had none left for 7 June); (c) the virtual elimination of the £1m 'neutral' information programme; (d) the 'switching off' of the media (when we complained, the reasonable reply came back that readers/viewers were 'fed up with politics'); (e) the reluctance of leading national politicians to participate while forming a government—trying to regroup.

If Butler and Marquand's book helps to ward off repetition of the near-fiasco of 1979 it will have served a useful purpose.

Murray Forsyth

Murray Forsyth is reader in politics at the University of Leicester.

Historical episodes

Galdós: The Mature Thought
by Brian J. Dendle
University Press of Kentucky, £16.50
ISBN 0 8131 1407 1

The greatest claim to fame of Benito Pérez Galdós (1843-1920) is rightly based on his *Novelas Españolas Contemporáneas*, which span the period 1881-1915. The majority of these 24 novels present in masterly fashion a detailed and perceptive picture of life in Madrid in the second half of the nineteenth century, analysing the individual in relation to his social and historical context. However, his 46 short historical novels, the *Episodios Nacionales*, though often ignored, are equally worthy of consideration.

Galdós began the first series of these in 1873 and the last *episodio* of the incomplete fifth series appeared in 1912. His basic aim in these novels was to present to his readers a fictionalized version of nineteenth-century history by juxtaposing authentic and invented happenings, and intermingling real and imaginary characters. (The first and last titles, *Trifulgor* and *Cinco*, are typically specific.) In 1879, in the last *episodio* of the second series Galdós unexpectedly announced he had decided to abandon this particular form of fiction, claiming that the events about which he was writing were insufficiently distant and that consequently it was impossible to maintain a proper historical perspective. Yet nineteen years later, without any real explanation, he returned to this "genera histórica" and it is these later *episodios* which are the subject of *Galdós: The Mature Thought* (the title is somewhat misleading, since it does not indicate that it is concerned exclusively with the *episodios*).

In this study Dendle provides a meticulously detailed historical survey not only of the period covered by these 26 *episodios* but also of the epoch when Galdós was writing (1878-1912). In addition he systematically examines the content of each book. There is no consideration of the artistic merit of these novels and, as he indicated in his introduction, Dendle has organized his study "to facilitate its use as a work of reference by those who seek information on or an introduction to individual *episodios*". His commentaries are often illuminating and his work in this area will be useful to all students of Galdós: in the index the subject matter of these *episodios* is conveniently broken down into 40 topics, ranging from Regeneration to Quixotry, and from leadership to religion. A complete chronological list of titles would also have been useful.

The basic thesis of Dendle's book is that Galdós's interpretation of the events of the years 1836-1880 in these *episodios* is markedly coloured by his feelings at the time of writing, feelings which were induced by the political situation prevailing in Spain from 1898 onwards. 1898 was in itself a crucial and traumatic year, as it was then that Spain lost the last of her remaining South American possessions. While it is undeniable that much of Galdós's view of the past was influenced by contemporary events and his growing dismay at the state of his country, a sense of proportion must be maintained in this respect. Despite Dendle's assertions, many of the things criticized by Galdós are not exclusive either to the epoch dealt with in the individual *episodio* or to its time of composition but had, in fact, been condemned by Galdós throughout his writing career. This element of bias on the part of Dendle may be what is otherwise a very solid and commendable piece of work.

Jennifer Lowe

Dr Lowe is lecturer in Spanish at the University of Edinburgh.

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BOOKS

The Proustian project

Remembrance of Things Past
by Marcel Proust
translated by C.K. Scott Moncrieff
and Terence Kilmarin
Chatto & Windus, £17.50, £19.00
and £18.50
ISBN 0 7011 2477 6, 2478 4 and
2479 2

The ghost of Proust will happily never be laid. A revised translation of his mammoth novel is now available some 50 years after the original translation which was started by C.K. Scott Moncrieff and completed by Stephen Hudson after the former's death. Kilmarin's version is a welcome new product of the Proust industry and one which, by virtue of being a translation, touches on the central objective of literary creation as Proust saw it.

"The function and the task of a writer," asserts the Proustian narrator, "are those of a translator" (Kilmarin, II.926). This statement strangely foregrounds intersemiotic activity as Roman Jakobson, in *On Translation* (1959), was to define it. There the great linguist identifies three forms of translation: intralingual (rewording by the writer within his own language), interlingual (translation as commonly understood), and intersemiotic (translation from one sign system to another). All three are relevant to Proust's enterprise. As an intersemiotic activity, translation is indeed at the core of Proust's novel, a transposition into the language of fictional writing of the manifold signals from observed and remembered reality. The "interlingual" translation of Ruskin was for Proust an essential step in defining for himself the difficulties of linguistic expression. Intralingual translation is superbly illustrated by Proust's incessant rewording, reformulation of the same

text, as evidenced by his preliminary publications and the many drafts of the final novel. The whole of the Proustian project can thus be viewed as a giant, multiform process of translation.

Proust's novel, moreover, is paradoxically well suited to being translated into English in particular. *La clef française*, not in evidence in Proust's involved, subtle, dialectical, yet logical and accessible language, is not an essential prerequisite in English either. And as for Proust's multiple and multidimensional epithets, so distinctive of his style, they find in the immense lexical resources of English the very linguistic means needed to convey, as they do in Proust's French, the sensuous, concrete representation of external and internal reality. These are genuine affinities, but there are difficulties which are no less real.

One of the many pitfalls is that although as a semantic and formal structure Proust's novel is modern, it is inevitably less so at a referential level, a number of its allusions being already dated (on both sides of the Channel). Kilmarin gives a great deal of explanatory information in his glossary, and also occasionally integrates the information into the text: *L'hôtel Ritz, ces soirs-là, doit ressembler à l'hôtel du libre échange* (Proust III.759) becomes: "The Ritz on these evenings when the Zeppelins are overhead must look like Feydeau's *Hôtel du libre échange*" (Kilmarin, III.782). Taking liberties, no doubt, but providing supplementary information, however, is necessary. Keeping Scott Moncrieff's rendering of "bones" for the "vertebrae" on Léonie's forehead was a false improvement to the text. Philip Kolb has since discovered (publishing his findings in *Romantic*

Review, 1963) an early Proustian version in which the absence of *et: "son trite front... [et] où les vertèbres transparaissent"* (Proust, I.52), makes sense of the offending word. It should then be read as a metaphor for the protuberances on Léonie's wig, not on her forehead. A trivial matter? Gide admitted rejecting Proust's manuscript on the evidence of what seemed abysmal ignorance of anatomy. Keeping "vertebrae" with an explanatory note would have sketched in the historical background.

Other pitfalls threaten in the translation of puns, slang, even colloquial French. Kilmarin does his best with the help of notes to make explicit what was hinted at, as for instance when Albertine corrects Françoise's "l'éteinde" to "teigne" (Kilmarin, II.1174). Adaptation is also needed to reconcile different social customs, but do national attitudes still differ sufficiently to justify the omission of "embrasse-moi" in an imaginary dialogue between two men (Proust, III.744, Kilmarin, III.767)? Is this regarded as an embarrassing display of emotion to be spurned in an English text, or is the omission an oversight? The latter probably explains the disappearance of an eight-line sentence: "*J'avais l'impression d'être un utilité*" (Proust, III.627, Kilmarin, III.642). Considering there are three thousand pages in the text such a loss is understandable indeed.

Of a different order is the loss of a cultural allusion: "Counterpane drama" for Tante Léonie's "*spectacles dans un lit*" is good but only if one accepts the sacrifice of a reference to Musset's *Spectacles dans un fauteuil*, at least in a note. The worst failures come of course from misunderstanding the text. Mistranslations of this sort are few but not totally absent: "*un fond*" taken to mean "secretly," "*mettre des aspèrges à toutes les sauces*" construed as "to put asparagus in all your sauces" (Proust, I.55, Kilmarin, I.59) instead of "to serve them too often".

Such blemishes, however, are offset by Kilmarin's skill in tackling so many types of discourse: descriptive, narrative, reflective; so many different registers: comical, lyrical, theoretical. The challenge was greatest in the third volume, hardly revised by the dying Proust. Here the sequence of many passages has been logically rearranged, lengthy notes promoted to the body of the text, and perhaps regrettably, all the pathetic signs of the urgency of Proust's writing eradicated: a blank respectfully left in the Proust edition filled in (Proust, III.759, Kilmarin, III.781), so many of the "et" indicating Proust's probable intention to return to a sentence replaced by a final full stop.

In this sense the text accessible to the English reader is more polished, more "definitive" than that of the Proust edition. In fact the French text is itself in need of revision. Since its publication in 1954, Proust's manuscripts have become available to the public; the work of scholars such as Alison Winton (Finch), in showing the considerable additions and alterations involved in the making of Proust's masterpiece, has affected our appreciation of it, as had, earlier on, the publication of Proust's secret compositions, *Jean Santeuil* and *Contre Sainte-Beuve*. The novel which Scott Moncrieff translated is, in a strange way, not quite the same as the text to which Kilmarin now has access: instead of working on the version offered by Scott Moncrieff, the new translator should perhaps—however daunting the task—have tackled what, after a half century of discoveries, can be viewed in many respects as a "new" Proustian text.

As it is, however, Kilmarin has clearly improved on his predecessor's attempt. We may not have a totally fresh translation into English of Proust's novel, but the one we have still conveys the melody of "*le long chant proustien*".

Ninette Bailey

Dr Bailey was formerly reader in French at Birkbeck College, London.



"Goethe at the Window of his Studio in Rome" by Wilhelm Tischbein, taken from *The Younger Goethe and the Visual Arts*, reviewed below.

An opportunity missed

The Younger Goethe and the Visual Arts
by W. D. Robson-Scott
Cambridge University Press, £19.50
ISBN 0 521 23321 6

Early in this book Professor Robson-Scott quotes a well-known passage from Goethe's autobiography, *Dichtung und Wahrheit*:

"The eye was above all others the organ with which I apprehended the world, I had lived among painters from childhood, and had grown accustomed like them to look at the objects about me from the point of view of the artist."

It is a passage which might have served as a motto for this study, which looks at the poet's interest in, and practice of, visual art, up to his return from Italy to Weimar in 1788.

It might have served, but does not, and in the event Robson-Scott resists any serious assessment of what is surely the crux of Goethe's remark: what did he mean by "the point of view of the artist", which artists served him as models, and at which times, both in his writing, and in his activities as a sketcher? What Robson-Scott offers is, rather, a chronologically ordered account of Goethe's early involvement with the visual arts, based chiefly on his own words, from his autobiography, and from letters and diaries. A good deal of attention is thus devoted to the poet's attempts to become a painter, and all but one of the eight illustrations in the book show "his" not very impressive achievements in this direction. This is the sort of book which may please those English-speaking admirers of Goethe for whom every act of his is magic, every word wisdom and every stroke of chalk or brush charged with significance. Robson-Scott is certainly anxious to counter a view which has been repeated by a number of German students of Goethe: that the poet was indeed a considerable draughtsman, but he none the less spends too much space, in what is a remarkably short study, documenting little but the futility of Goethe's aims.

Did Goethe have the eye of an artist, and, if so, why did he fail to reach the level of competence of, say, the composer Felix Mendelssohn, in his drawings? These are questions to which Robson-Scott does not address himself, but they are surely the only questions which are likely to throw much light on the poet's attitudes to creativity, and his methods of creation, with both of which this study professes to be concerned.

If Goethe's practice as a sketcher is treated in superficial and exclusively biographical terms, it must also be said that Professor Robson-Scott's conception of the history of art is entirely schematic. The genre painter with whom Goethe became familiar during his boyhood represents "truth to nature"; Raphael is "classical"; Guercino and Rembrandt are "baroque"; Friedrich Oeser worked "in the early Neo-Classical manner, and not really so far removed from the Rococo as he would have liked to think". In the absence of any detailed analysis and any illustrations (and English readers will find it exceptionally difficult to trace reproductions of the work of most of the German artists referred to); these characterizations appear to be little more than juggling with abstract categories. Robson-Scott does occasionally suggest that for Goethe these categories were not rigid, that he was, for example, able to see "classical" qualities in the Gothic; but for the most part, he seems anxious to preserve distinctions which are quite unreal. He introduces quotations which show that Goethe prized above all the inner vitality of art, irrespective of style and subject-matter; but the chronological scheme does not allow him to bring these scattered thoughts into the centre of the argument.

A more selectively documented essay on the younger Goethe's response to the visual arts would be a welcome addition to the literature in any language, but Robson-Scott's study, although it has the merit of offering a wide range of Goethe's writing in English translation, is not that essay, and the whole enterprise seems to be an opportunity missed.

John Gage

Dr Gage is a fellow of Wolfson College, Cambridge.

BOOKS

The heart of the matter?

Lectures on Literature, volume one:
British, French and German writers
by Vladimir Nabokov
edited by Fredson Bowers
introduced by John Updike
Wendenfeld & Nicolson, £12.50
ISBN 0 297 77852 8

In his introduction to this first volume of Nabokov's lectures written for the Masters of European Fiction course offered at Cornell University 1948-1958, John Updike recalls his wife's enthusiasm on hearing them, in the last year that they were delivered, before the success of *Invitation to a Beheading* allowed their author to give up teaching. Mrs Updike "believed he could give me something that would last all my life—and it did". What that something was is formulated in a phrase which sums up this book with a flourish that echoes Nabokov: "Style and structure are the essence of a book; great ideas are hogwash".

There are plenty of remarks in the text which show that Nabokov did hold this idea of literature: "The why and the how = the what". Or: "*Mansfield Park* is a fairy tale, but then all novels are, in a sense, fairy tales. ... There is no such thing as real life for an author of genius". As ideas go, these are not particularly great ones, but they are just as well, since to regard them as such must lead to the discovery that they are indeed hogwash. Though later exponents of style and structure have bathed pretty freely in that substance without noticing any discomfort, Nabokov is too clever to be caught in the trap of overvaluing ideas, even his own. The why and the how of his lecturing technique, his manner of presenting a literary text, do not give an "idea" of it, in the sense of an interpretation, but something more like an experience of it.

Mr Updike protests, as might be expected, against the idea that "a masterpiece can be spun from thin air": he regrets Nabokov's opinionated dislike of Faulkner and liking for R. L. Stevenson; and he explains such aberrations away by placing "the great man" in the context of an émigré lecturer of the 1930s and of the dogma of the New

Criticism. This book does not need to have such allowances made for it, however. Its critical comments never sink into the mire of theory; they are touched by the magic which enchanted Nabokov in great literature and which he knew could not be communicated dogmatically. To teach literature was to communicate the enchantment or to fail. The essence of its magic may be in style and structure, but these are themselves not quantifiable things; they cannot be reduced to a scholarly "what".

The "what" which is composed of the "how and the why" was for Nabokov precisely not something which could be separated from the literary text. Hence his libel against sociological, psychological, biographical or other kinds of (in his view) extraneous interest in a literary text. And hence too his insistence upon what sounds like a very old-fashioned, simple-minded criterion of aesthetic appreciation: "the tell-tale single" in the spine—"certainly the highest form of emotion that humanity has attained when evolving pure art and pure science". At the end of his concluding lecture for the course, Nabokov would tell his students:

"I have tried to teach you to feel a shiver of artistic satisfaction, to share not the emotions of the people in the book but the emotions of its author—the joys and difficulties of creation. We did not talk around books, about books; we went to the centre of this or that masterpiece, to the live heart of the matter."

Nabokov stands here, of course, on the edge of that vast area of modern speculative thought, where existentialists, phenomenologists, structuralists, and other foreigners have tried to assess the essential creativity of the human spirit. He knows well enough where he is standing, for the simple reason that he is himself a creative writer. But he keeps his back turned towards that awesome metaphysical terrain; occasionally he casts glances at it over his shoulder, but his philosophical glimpses are too brief to be illuminating. The motive of his unusually sneering contempt for Thomas Mann and Rilke may have

been a reluctance to recognize in them an intellectual profundity greater than his own. Even where Proust and Kafka are concerned, Nabokov's concern with style and technique leaves him unable or unwilling to comment adequately on the thoughts and emotions that enter into the constitution not just of "the people" in their fiction, but of the significance of their writing.

Nabokov's desire not to talk "about" books, together with his ability to be satisfied with "fairy-tale" explanations of the magic in creativity, do not allow him much freedom of movement, in fact, when he wishes to get to "the live heart of the matter". Neither criticism nor aesthetic theory will serve. He wants the thing itself, "the unified and unique radiance" into which the "three facets of the great writer—magic, story, lesson—are prone to blend". And he very nearly gets it, and probably did enable several generations of students to get much more of it than they would have done unaided. His method was a mixture of reading out loud and exact rehearsal of facts from each novel. His passion for picturing precisely the web of the plot and the whereabouts of the characters is manifest in the extraordinary diagrams Nabokov made of places, movements, and even (for Jekyll and Hyde) of psychological states, and etymological transformation (for Kafka's *Metamorphosis*).

This approach, which Nabokov called "detective investigation", must have misled some of his hearers, into doing the very thing he told them to avoid: namely, entering into the life of the book as though it were real. But then that is just what he makes the experience of these novels seem to be, by virtue of his skillful selection of readings, of resumé, and of detail set in high relief: it seems for a moment to be intensely real. And for Nabokov that reality, the reality of an artistically enchanted imagination, was the only one that mattered.

A. K. Thorby

A. K. Thorby is professor of comparative literature at the University of Sussex.

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University Press of Kentucky, £11.85
ISBN 0 8131 1409 8

The popularity of Calderón's comedies continued for many years after his death in 1681. The account books of the Madrid theatres, which from 1708 list the daily takings of the public playhouses, show clearly that the box-office successes of the first half of the eighteenth century were the plays of magic, the *Comedia Christi* plays of Calderón (put on in the theatres after Corpus) and Calderón's comic pieces. Paul Mérimée reports 79 Calderón titles performed between 1708 and 1740, the first five in order of popularity being comedies *de capa y espada*, cloak-and-sword plays, while many of the plays which are assiduously studied today make few appearances in the repertoire.

In his own lifetime the plays of Calderón had penetrated the French and English stages, and it was largely the comic pieces which provided the sources of plot details and the bases of adaptations. In seventeenth-century France, Calderón was seen primarily as a craftsman, as a maker of ingenious plots. In late eighteenth-century Germany, on the other hand, he came to appeal to poets, and it is the German critics such as Tieck and the brothers Schlegel who are responsible for the view of Calderón as primarily a religious poet, a writer of Christian tragedies, and a great thinker.

While the nineteenth-century Spanish critic Menéndez y Pelayo writes

warmly of the comedies, praising their clever and ingenious plots, he views them as intended to depict customs, particularly those of the rising bourgeoisie; in other words he interprets them, in line with the ethos of his own day, as *costumbrista* works. It is only in recent years that literary critics have endeavoured to come to terms with Calderón's comic pieces, applying to them twentieth-century theories of comedy. Despite the worthy and admirable attempts of critics such as Edward Wilson, Bruce Wardrop and Gerald Wade, no agreed interpretation can so far be said to have emerged. Nevertheless, an attempt is at last being made to assess the merits of what were clearly most successful plays in their own day and well after the death of the poet, and the appearance of these four translations, well timed to be available for the tercentenary of the death of the dramatist, is therefore particularly welcome.

Calderón's plays have had translators in the past, but few texts are currently available. The growth of comparative literature studies and the establishment of departments of drama have created a demand for plays in translation, and it is therefore very fitting that Kenneth Muir should have decided to publish translations of four of Calderón's comedies: *From Bad to Worse* (*Poor está que estubo*), *The Secret Spoken About* (*El secreto a voces*), *The Worst is Not Always Certain* (*No siempre lo peor es cierto*), and *The Advantages and Disadvantages of a Name* (*Dicha y desdicha del nombre*).

One of the basic problems which confronts the translator of Spanish comedias is their varied verse pattern, a subtly changing medium for which no obvious counterpart exists in English. Kenneth Muir has chosen to use a basic blank verse structure of iambic pentameter alternating with prose, a pattern which is readily accessible to an English reader or actor. The translations, while faithful to their originals, run freely enough, and should not prove difficult for the actor or audience accustomed to Elizabethan dramatic pieces.

The plays are introduced and annotated by Ann Mackenzie, who provides very useful comments on difficulties of interpretation which are at the same time a help to a would-be producer, and relates the individual plays to the Calderonian canon in general. There is a brief but useful selected bibliography.

Kenneth Muir is to be warmly congratulated for the successful way in which he has fulfilled his proposed aim: to provide a text which actors can speak naturally and audiences hear and assimilate with pleasure. The flavour of the plays has been well preserved, and production would surely bring out the speed of plotting and celerity of action which are the hallmark of these witty pieces of intrigue, the product of a skilful dramatist who was a master of stagecraft.

J. E. Varey

J. E. Varey is professor of Spanish at Westfield College, London.

Correction

The title of Professor H. A. Turner's book reviewed by John Rea in *THESE* April 17 was wrongly given. The correct title is *The Last Colony: But What? A study of the labour movement, labour market and labour relations in Hong Kong*.

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BOOKS

Cities beautiful

The Rise of Modern Urban Planning 1800-1914
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ISBN 0 7201 0902 8

Shaping an Urban World: planning in the twentieth century
edited by Gordon E. Cherry
Mansell, £14.75
ISBN 0 7201 0903 5

Remaking Cities: contradictions of the recent urban environment
by Alison Ravetz
Croom Helm, £14.95
ISBN 0 85664 293 2

Does the present intellectual crisis of confidence in planning result from its political unpopularity under regimes like Mrs Thatcher's and President Reagan's, or is loss of faith in centralized, populist action associated with a decline in the fashion for holistic or synoptic modes of intellectual inquiry? Certainly in Britain today there is considerable questioning about the future directions of planning, and the success of the Planning History Group's International Conference in 1977 reflected "a parallel and growing interest in the origins and history of the planning process and its effects on our environment".

The two collected volumes edited by Sutcliffe and Cherry cover a very wide range of themes from the periods up to and since the First World War respectively. One major theme which links them with the book by Ravetz is the changing identity and role of the professional town planner. All three books are therefore of particular current interest to the academic and practising planners in Britain who are now being challenged to justify themselves in terms of "getting things done" with the obvious attendant danger of being panicked into forgetting what it is they want to do and why.

In his introduction Sutcliffe identifies three contrasting interpretations of the foundation period of modern planning: liberal-progressive, functionalist and Marxist. In his opinion the liberal-progressive view was dominant, perhaps because of the Anglo-Saxon majority at the conference; while the "new, Marxist planning history has clearly come to stay" he believes that it was the functionalists who had the most stimulating contributions to make. Thus papers on the role of big competition, housing reform and the origins of the City Beautiful movement by Breidling, Tam and Wilson respectively are written in the Whig historical tradition of fairly spontaneous and "natural" improvements, and give little attention to the role of planners themselves and their alliances with, or co-optation by, political and economic elites. This view is challenged by Calabi and by Bollerey and Hartmann as their radical analysis highlights the link between planning and a bourgeois state which uses the emergent profession as one of several means of ensuring capital accumulation through urban development. Meller's critical study of Patrick Geddes claims that he made no great "revolution in planning ideology", like other prophets of the profession, Le Corbusier, he suffered from contorted prose and more than a hint of megalomania.

The second volume highlights the debatably surrounding twentieth-century developments in planning. It is here that we see clearly the great expansion of the role of the profession which, although varying according to national tradition, has a number of common features. Thus, while American planning emerged from the City Beautiful movement, Germany emphasized efficiency and engineering criteria and the British tradition grew

from housing and social reform, all western planning became increasingly professionalized in its concern for planning methods, establishing its own identity, traditions and education. Interesting but somewhat uncritical accounts show the dominant role of planning design in planning methodology and how this profoundly influenced international transfers, especially to colonial territories. Although Fishman's closing paper refers to the "drastically overstated" benefits of professional expertise, these essays generally fail to come to grips with the notions that professionals play a dominant role in defining problems in their own interests and then have a very substantial influence on how resources are allocated.

Are the best papers worth the expense and the effort of acquiring and reading the books? My own reaction is one of disappointment. While there are some interesting revelations of Geddes, for example, or the garden city, or "schemata" in British town planning, and some valuable reinterpretations, especially from the European political left, the majority of the pieces in these two volumes lack a cutting edge. They will guide the growing band of urban historians as to source material and sometimes hint at fresh ideas, but this welcome new movement still awaits its Childs, Benvolo or Mumford.

Alison Ravetz, however, acknowledges her gratitude to the Planning History Group. She proposes that in the period since the Second World War cities were remade according to a certain "style" which embodies such serious contradictions that now a "fundamental change of approach is needed". The "style" she refers to is that of a statutory, technical and professionalized approach. It was allied to the naïveté, confidence and consensus of the postwar period in which "the ideal, planned environment was used deterministically to bring about certain social ends". The application of this style has led us to the "segregated city" via slum clearance, tower blocks, the property boom and its collapse.

Much of the blame is laid at the door of the social exploitation which a private market in land entails, but Ravetz also has penetrating and challenging things to say about the "disabling" urban professions whose "ultimate power is to define not just their own terms, but even the needs that justify their existence".

Her three main themes – deliberate policy, ideas and designs; the technology producing the environment; cities as mechanisms of social control – are dealt with in three sequential periods – the 1940s, the 1950s, and the present. Most unfortunately, this is a structure which is almost bound to create repetition of both substantive narrative and of interpretation. Almost every page or paragraph contains some fresh observation and insight but there are inadequacies. It is not good enough to say that the large issues of centralization and social definitions of "development" are "too great to be pursued here" nor to ignore Cuba, Tanzania and China in a few pages. However, despite some faults of structure, I would recommend this book as an honest and scholarly attempt to shed fresh and critical light on the huge problems of contemporary British planning.

J. Brian McLoughlin

J. Brian McLoughlin is a freelance teacher, researcher and writer.

First published in 1953 *English Historical Documents* was designed to provide the general reader with primary sources of English history. Volume II, now in its second edition, deals with the period 1042-1189 and is concerned principally with the causes and consequences of the Norman Con-

quest, using material translated from Latin and Old English. The editors, David C. Douglas and George V. Greenaway, have revised the volume to include new maps and tables and have rewritten the bibliographies. The book is published next week by Eyre Methuen at £60.00.



An illustration from *Expositio hymnorum secundum usum Sarum* printed by R. Pynson in 1497. It is reproduced in *The World of Medieval Learning* by Anders Filtz, published by Blackwell at £15.00.

Learning about labour

The Origins and Development of Labour Economics
by Paul J. McNulty
MIT Press, £10.85
ISBN 0 262 13162 5

This book aims to "provide a comprehensive intellectual history of how both the concept of labour and its study have evolved over time". One problem is to define when labour economics really began. There are two main positions, one that it started with Smith and the second that it started about one hundred years later around the time of Ely's book *The Labour Movement in America*.

Paul McNulty takes the view that both alternatives can be right as labour economics meant different things at different times. In fact in his first chapter, on "the heritage and background" he goes back even farther to medieval times before going on to tackle Smith, Ricardo and Marx. These he discusses largely in terms of the labour theory of value and of the share of wages in the product. The content of these chapters is largely outside the scope of labour economics as understood today.

The post-classical analysis of labour economics proper can, the author suggests, be seen in three phases. First, what he terms the "labour problems approach" of 1880-1921 which was essentially a case-study approach – in which differentials are reported, specific strikes studied – based upon a rejection of contemporary wage theory.

This rejection carries over into the second phase, which is termed the "new speciality of labour" economics or the institutional approach. Here, and we are talking of the interwar period, occurred the closest alignment of economics and industrial relations, with emphasis being placed on the study of unions – paradoxically in a period in which they were relatively weak.

Finally we come to the third stage, the postwar integration of labour economics with mainstream economic theory. In this period a lot of interesting new developments occur, such as human capital theory, signalling theories, and the analysis of discrimination and labour market segmentation. McNulty discusses most of these,

albeit rather briefly, and he concludes by arguing that the quest for rigour and quantification has gone too far and that more attention should be paid to the influence of institutions.

Thus we come full circle. The analysis of labour starts by being integrated with economic theory as labour is the source of value – and ends up by again being left, but in a different sense, of mainstream theory.

To write an interesting book on the development of labour economics is a fairly demanding task and this book does not really succeed. It is difficult to detect any clear theme and the approach is descriptive rather than analytical. Within chapters there is a tendency to hop from a description of contemporary material, to how labour was taught, to contents lists of journals, and to the views of historians of thought. In the later chapters there is some emphasis on how labour economics was taught in the United States and this material, together with lists of American teachers, is not likely to be of great interest to British readers.

Once we get beyond the classical economists the whole book, in fact, becomes heavily orientated towards American economists. As they have done most of the work this is inevitable but their contribution does seem to be given too much emphasis. For example a natural place to turn to for the antecedents of modern theory is Marshall's *Principles*. There we find a discussion of human capital, the distinction between general and specific training (although the terms are not used), the rules governing the elasticity of demand for labour, careful descriptions of how to measure pay and so on. Yet in this book Marshall rates just three pages.

The book seems unlikely to satisfy any of the various groups who may read it: historians of economic thought, those from industrial relations or those who may want an appreciation of the current state of the subject and its recent development. For the latter group a thematic approach might have been preferable. To repeat, however, the author did set himself a pretty severe task.

Kelth Norris

Kelth Norris is reader in economics at Brunel University.

Unequal shares

The Costs of Higher Education: how much do colleges and universities spend per student and how much should they spend?
by Howard R. Bowen
Jossey-Bass, £12.75
ISBN 0 87589 485 2

Although this study relates entirely to the United States, it deals with some familiar themes. The course of higher education has been remarkably similar in the last 30 years, with expansion and quality improvement (at least so far as expenditure per student can measure it) in the 1950s and 1960s and a very perceptible but not catastrophic setback in the 1970s. However, there are striking contrasts with the British situation. In America higher education is experienced by a much larger section of the community and is vastly more heterogeneous. Around half of the young adult age-group enters it and a quarter graduates. Although the teaching cost per student-unit (freshman cost as one and advanced postgraduate as three) is not very different on average, the ranges within groups of institution – two-year colleges, liberal arts colleges, and universities – are enormous. Among research and doctorate-granting universities, for instance, the maximum is more than seven times the minimum.

The author explains the circumstances in which such differences arise: institutions get as much money as they can and spend what they get, moreover, affluent students more applicants, selection tends to promote good academic results, and there is a turn in both more applicants and more funds. Especially in a system where public support goes to students, not to institutions, there is a substantial degree of instability. The cost, perhaps not sufficiently emphasized by the author, is a wasteful distribution of resources, with a substantial part of the student population always in under-financed institutions, and others enjoying rich provision.

A weakness of this study is that it deals only with averages for institutions and groups of institutions. We are not told how far their subject-matter differs; if they do so substantially (as surely they must) then the great differences in costs of teaching-provision by different subjects distort the comparisons made. (It is unlikely, however, that this would invalidate what is said above about the unequal distribution of resources.)

Taking a staff:student ratio (translated into British terms) of 1:15 as about the minimum consistent with reasonable efficiency in an arts subject, the author found that the average for all public institutions together was sumably in all subjects together was somewhat worse than this, and in the least affluent fifth of all institutions appeared to be something like 30 per cent worse. Estimates of this kind suggest that the extent of underprovision is, indeed, very considerable.

There is an interesting attempt to detect economies of scale in higher education institutions, relying in part on earlier Carnegie studies. Although the middle and larger institutions show no firm benefits of scale, there is some evidence of a minimum size below which the diseconomies are appreciable – 600-800 students in a liberal arts or two-year college, 5000-5500 in a research and doctorate-granting university. However, the author points out, that smallness may carry no advantages of which such an assessment takes no account.

Altogether, the report should give Americans cause for serious thought about the last ten years' deterioration in the affluence of their higher education system, and British readers a fascinating opportunity to compare the quantifiable aspects of the American system with those of their own.

A.J. Brown

A.J. Brown was until recently professor of economic studies at the University of Leeds.

BOOKS

Virtuous in proportion as they are enlightened?

The Science of Human Progress
by Robin Holliday
Oxford University Press, £6.95
ISBN 0 19 854711 0

The Science of Human Progress is a paean on the benefits past, present and future, that the study of biology confers on mankind. Its author, Robin Holliday, who is a geneticist, laments the fact that most so-called educated people are ignorant of science, and in particular, of biology. Their ignorance is partly due to the failure of biologists to communicate their own discoveries in terms intelligible to the layman, and his own book goes some way to remedy this deficit, at least in the area of molecular biology.

Dr Holliday also claims, rightly, that part of the problem is the irresponsibility of the press and of publishers. There is certainly something odd about a culture in which Katherine Whitehorn, a columnist in one of the "quality" Sunday newspapers, can attempt to cast doubt on genetics by claiming that Mendel cooked his results: it is rather as though a scientist were to disparage the works of Beethoven by discovering a single false note. Unfortunately Katherine Whitehorn's attitude to evidence is shared by many scientific journalists, like Brian Inglis, who has defended Uri Geller, or Arthur Koestler, whom some laymen take seriously as an authority on evolution.

Dr Holliday argues that the public's ignorance is damaging to society since it fosters superstitious beliefs. My own view is that the literary class, who dominate British intellectual life, are more to be pitied than cursed since they cut themselves off from half of human culture. Dr Holliday also argues that sensational and false stories

about the activities of biologists (like human cloning) may cause restrictions to be imposed on what they are allowed to do in their laboratories. However, the virtue of biologists is not in freely refraining from dangerous or obscene experiments is not as universal as Dr Holliday supposes. There are currently at least two laboratories that are contemplating cross-breeding man and chimpanzee, and experiments on genetic engineering are not as risk-free as he maintains. It is not true, as he alleges, that any dangerous micro-organism would already have been invented by nature, since it might have had to go through evolutionary stages in which it was not viable, even though the final product could be synthesized by genetic engineering.

Unfortunately, Dr Holliday oversimplifies many other issues, and he could be accused of suffering from the narrowness of view that he castigates in others. He claims, for example, that there is no free-will, while making no attempt to define the term, and he asserts that consciousness arose through evolution, as though this solves its mystery. He forgets that the study of the human mind is unique in that the instrument we use to gain an understanding is the same as the instrument we are studying. This fact must set limits to our success: it could be argued that we can never understand everything about our own minds since if we try to understand how the mind reached an understanding of itself, we shall still not have understood how we understood how we reached our initial understanding: there is an inevitable infinite regress.

Dr Holliday is highly reductionist in his approach and seems to believe that the problem of memory would be solved if its physical basis were discov-

ered: this is rather like saying that a knowledge of silicon chips would enable one to understand how a computer system worked. His reductionism leads him to some extraordinary statements such as "In mammals, other than man, there are not enormous differences in brain function": in fact there is a much closer resemblance between the brain of a chimpanzee and that of a man than there is between chimpanzee and mouse.

Although understanding the bits and pieces of the brain, its hardware, is an important and interesting scientific enterprise, it can never on its own explain human behaviour. The latter task depends on elucidating the logic of the brain. To describe and understand this logic requires a whole set of new concepts (currently being developed by psychologists, mainly through the construction of computational models) that are not applicable to brain hardware. This does not mean that human behaviour is not in some sense reducible to the physics and chemistry of the brain, but it does mean that it cannot be understood in terms of single cells; similarly, although a single cell's behaviour is determined by the atoms that make it up, an understanding of it depends not on developments in physics, but on generating concepts applicable to the complex arrangements of the molecules in the cell. Dr Holliday seems to be unaware that unless one understands the nature of the tasks the mind performs, one cannot begin to understand how it performs them. Recent developments in linguistics have, for example, radically increased our understanding of language in a way that no purely biological work could hope to achieve. For someone who understands so little about the subject, Dr Holliday is remarkably patronizing about the achievements of psychology.

He also fails to face the main problem confronting all scientific ameliorationists. Any advance in understanding, whether of ourselves or of the world around us, can be used for good or ill. Who is to decide how such advances will be used? And what help can biology give in taking such decisions?

Indeed, he shares with Katherine Whitehorn a tendency to pronounce on matters of which he is clearly ignorant. For example, he argues that the liberation of women has been achieved partly through the demonstration that there is little difference between their intelligence and man's, but he fails to note that most intelligence tests are deliberately designed in such a way that men and women will perform equally upon them, and that roughly four times as many men as women have very high IQs.

Part of this avowed aim is to show that "the common view that science cannot and never will contribute to man's moral and 'spiritual' development is false". In so far as acquiring an understanding both of ourselves and of the world around us is an important part of spiritual development, he is of course right, but he fails to show how scientific discoveries can improve morals. Indeed, some of his glances at the future of the biological sciences have a ludicrous air. He claims that "an understanding of the aesthetic sense will make... possible... a far more positive and accurate assessment of quality", thus obviating "the present inefficient system of identifying genuine creative artists" and enabling society to support artists with the right creative talent from an early age. Since great art always has an element of novelty, it is unclear how any device could ever be constructed to spot it in advance.

He also fails to face the main problem confronting all scientific ameliorationists. Any advance in understanding, whether of ourselves or of the world around us, can be used for good or ill. Who is to decide how such advances will be used? And what help can biology give in taking such decisions?

Notwithstanding these criticisms, Dr Holliday has written a lively and interesting book which is easy to read. It has the rare fault of being too short: one wishes that he had given himself more space to develop his ideas and to answer possible criticisms. His motto could be derived from Thomas Love Peacock's Mr Forster, who remarked: "I conceive that men are virtuous in proportion as they are enlightened; and that, as every generation increases in knowledge, it also increases in virtue." To which, I reply, with Mr Escot, "I wish it were so".

Stuart Sutherland

Stuart Sutherland is Director of the Centre for Research on Perception and Cognition and professor of experimental psychology at the University of Sussex.

Modern circuit theory

Applied Circuit Theory: matrix and computer methods
by P. R. Adby
John Horwood, Wiley, £26.00 and £14.00
ISBN 0 85312 071 4 and 100 1

It was not so many years ago that courses in circuit theory were viewed as a necessary evil by many degree course students in electrical engineering. One reason for this attitude was that the student saw a most elaborate and extensive mathematical development culminating in the analysis of quite simple and often trivial circuits. The relevance to practical engineering problems was frequently not clear, owing to the sheer mathematical complexity which then resulted. Although matrix methods of circuit characterization, for example, have been taught for many years, the justification has often been that they "tidy up the mathematics" rather than provide a practical formulation of the circuit equations which leads to the analysis of the circuit. As a result, both the student and lecturer have often been content to resort to rules of thumb, which, though still useful in engineering, are often inadequate in meeting the demands of present technology.

Many of the topics which are the essence of modern computer-aided circuit design are to be found in the nine chapters of this book. The author claims to have steered a course between fundamental and advanced theory, although in fact one finds that some basic subjects where knowledge could have been assumed are included, and are dealt with in a rather superficial way. An example is the treatment of sinusoidal steady-state analysis and the introduction of phasors; in particular many teachers will find / defined as the root of minus one as anathema in this context. Similarly, Tellegen's theorem seems to come and go without applications, and the Laplace variable *s* is tantalizingly introduced several times in early chapters before being dealt with in a little more depth in chapter nine. Many of these subjects could have been left to the more effective treatment which they receive in other texts. Towards the other end of the scale, more advanced techniques are dealt with most authoritatively.

Using a general description of the standard circuit component branch, the reader is initially led from the formulation of the various topological circuit matrices and the incorporation of active devices through the generalized circuit matrix equations. These are then used in following chapters in the treatment of nonlinear direct current circuit analysis

computational approach. Computer Aided Circuit Design, Computer Aided Analysis of Electronic Circuits, and so on. All these books share common ground, differing only in scope, depth, and the programming language chosen to exemplify the techniques. In this latter respect, Dr Adby's choice of BASIC is most appropriate in view of the large number of microcomputer machines now available (and appearing in academic laboratories) which offer this language as standard. Five major programmes are described in this book, which, though requiring some attention to the matrix functions available on mainframe BASIC but not generally in microcomputers, could nevertheless be mounted on several of the cheap microcomputer systems.

It is fortunate, then, that powerful computers (and more important for the educationalist, the recent advent of cheap microcomputer power) have come to the rescue and provided circuit theory with credibility in the academic engineering environment and serious applications in industry. The computer is the ideal tool for removing the computational tedium of circuit theory to circuit analysis and design problems.

It is against this background that the practitioner, alarmed at the appearance of yet another book on circuit theory, might be appeased. The title of Dr Adby's book reflects his concern with demonstrating the applicability of the theory by way of matrix and computer methods to practical circuits. It is not unique in this aim, which is shared by several other texts which have appeared in the last few years. *Circuit Theory: a*

where Newton iteration is discussed and device models are presented, linear analysis using the nodal admittance matrix, and state variable analysis. This latter topic is confined to linear circuits, and the accent is on solution by way of the Laplace transform rather than numerical integration, an approach which many might find restrictive.

Interspersed between these chapters is a quite elaborate presentation of two ports and a chapter on network functions which includes a discussion of Laplace transforms and symbolic analysis. Although it uses a rather naive technique for tree generation, the presentation of the symbolic method is probably unique in an undergraduate text. Finally, chapters on sensitivity and tolerance provide insight into the importance of these topics in areas such as statistical circuit analysis.

Inevitably in a book concerned with relatively advanced mathematical techniques, the reader will occasionally be caught out by the notation. The use of the prime to variously represent a time derivative, quiescent value and particular matrix quantities, and the appearance of the symbol / as both current and the 90° phase operator are unfortunate examples of this. In addition those who worry about the correct use of units will be concerned by the appearance of almost everything, but the accepted term made when reference is made to angular frequency.

Nevertheless, Dr Adby has written a useful and interesting book, enhanced by the inclusion of computer programs (for which a user service is offered). It is a book which has scope reflecting the modern application of circuit theory in engineering research and development. Although the relevance of the book as a teaching text will depend on particular electronic courses, it can certainly be recommended for the bookshelves of lecturers who teach in this subject area.

J. K. Fidler

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BOOKS

Understanding Descartes

Descartes: philosophy, mathematics and physics
edited by Stephen Gaukroger
Harvester Press, £28.00
ISBN 0 855 27 798 X

Descartes is most often associated with philosophical problems about thought, subjectivity and scepticism: he is also the seventeenth-century scientist who corresponded with Huygens, More, Cavendish, Regius, Mersenne and many more, about such sundry disciplines as optics, meteorology, dynamics, physiology and mathematics. He not only discussed the theories of his correspondence; he made significant contributions to each discipline and thereby earned a place with Galileo and Newton among the most original theoretical scientists of the seventeenth century.

The latter Descartes has unfortunately been less evident than the former in our general awareness of his contribution to the history of ideas. The emphasis on Cartesian philosophy at the expense of physical science is nothing less than a gross distortion of history. To underline the contrast between the two accounts one need only consider Descartes' approach to understanding the imagination. Rather than merely reflect on his experience of imagining, or on the meaning of the term, or even on prior scholastic theories, he went instead to the local butcher "almost daily to watch him kill the beasts", and then carried home parts of the brain for further anatomical examination (Letter to Mersenne, November 13, 1939).

Gaukroger's collection is a welcome antidote to the almost traditional misunderstanding of Descartes. It contains ten essays, four of which were written specially for this publication. It also includes a translation of Gueroult's paper on the metaphysics and physics of force in Descartes, but not J. Wahl's paper on the Cartesian concept of an instant, as the inside back cover promises. The remaining essays are rewritten versions of earlier published material, including a ninety-page contribution by Alan Gabbey on "Force and Inertia in the Seventeenth Century", Charles Larmore and Nancy Maull both contribute essays on the scientific content of Cartesian epistemology, and although I would have preferred to see a less clear-cut assumption of *a priori* intent on Descartes' part, they successfully show how the philosophical and scientific are unavoidably intertwined in Descartes' theory of sensory experience.

There are also two papers - by John Shuster and the editor - on Cartesian methodology; both are concerned with Descartes' claim, especially in the early part of his career, that he would fundamentally revise the Aristotelian concept of science by mathematizing physics. The meaning of that claim, and the reasons why Descartes eventually failed to deliver on his promises, are examined in detail. Mahoney and Grosholz have written papers on Descartes' contribution to the history of mathematics; and there are two

further chapters on what might broadly be called Cartesian logic. The final contributions, by Gueroult and Gabbey, examine Descartes' place in the history of dynamics.

Those interested in the history and philosophy of science will benefit most from reading this collection; philosophers would do well to at least read some chapters before returning to an unnecessarily narrow diet of the *Meditations* and the *Discourse*. As the first in a series of studies in the history and philosophy of science planned by Harvester Press, the book is a promising start.

Desmond M. Clarke

Desmond M. Clarke is a statutory lecturer in the department of philosophy at University College, Cork.

A second (revised and enlarged) edition of *Glossary of Astronomy and Astrophysics*, by Jeanne Hopkins, has been published by the University of Chicago Press at £10.50.

For some time a standard reference companion in Swedish degree courses, *Physics Handbook: elementary constants and units, tables, formulae and diagrams and mathematical formulae*, by Carl Nordling and Johnny Osterman, has now been issued in this country by Chartwell-Bratt Ltd, Old Orchard, Bickley Road, Bromley, Kent BR1 2NE, at £12.00.



Part of the dining salon of Brunel's S.S. Great Eastern, photographed while anchored at Quebec in July 1861. Taken from S.S. Great Eastern: the greatest iron ship by George S. Emmerson, published by David & Charles at £8.95.

A cautionary tale for computer scientists

Computer Science: an instructional manual
by C. S. French
D. P. Publications, £5.75 and £3.75
ISBN 0 905435 14 81 and 13 3
Fundamentals of Computer Science
by Andrew J. T. Colla
Macmillan, £14.00 and £6.95
ISBN 0 333 27552 7 and 30503 5
Computer Peripherals
by Barry Wilkinson and David Horrocks
Hodder & Stoughton, £12.95 and £6.75
ISBN 0 340 23649 3 and 32652 3

Contrary to popular belief digital computing has been with us for some considerable time. Its earliest exponent was Professor Charles Babbage, 1792-1871, who as early as the 1820s had laid the groundwork. His difference engine, begun in 1822 and especially the analytical engine, for which design work started in 1835, incorporated many of the ideas to be found in modern machines, although his engines were oriented to decimal rather than binary operation. Thus the hardware design for his analytical engine included high-precision arithmetic, parallel addition with parallel carry and automatic print-out of results. The software side was not neglected. Lady Lovelace, the world's first programmer, wrote illustrative programs relating to the computation of Bernoulli numbers, which incorporated routines in the modern style. The importance of the conditional instruction, and stored program and data, the twin hallmarks of a computer, were fully appreciated.

The task which Babbage's team undertook was formidable. Naturally enough for that era the analytical engine was to be mechanical in operation and its peripheral equipment was to be restricted to mechanical devices. Engineering drawing was in its infancy so drafting conventions had to be established, and gear profiles designed. Machine tools to manufacture the gears for the engine also had to be designed and production techniques devised.

The importance of an integrated approach to the system design was well understood. The need to have a proper trade-off between what has become known in recent years as software and hardware was appreciated. Nor were the applications of the new technology overlooked. Initially the British Government saw potential in the difference engine and awarded a development grant of £17,000, a huge sum for those days.

Later a team of Italian military personnel including Menabrea, later to become one of Garibaldi's generals, attended a series of seminars in Turin to determine the military potential - especially towards the improvement of artillery tables. Indeed, the three traditional roles of computers, in commerce, science and defence, were well appreciated.

However, the overall project was beyond the resources of the age. The personality of Babbage was such that his managerial skills were poor and his restless nature militated against a sustained approach to his very ambitious work. Although a working model of the pilot difference engine was shown at the International Exhibition in 1862 the overall project languished and was finally abandoned. Babbage ended his days as an eccentric recluse.

What message does this cautionary tale have for potential readers of the three books under consideration? Perhaps the most important is that the subject of computer science should be seen as coherent in the way that Babbage and his colleagues perceived so long ago. With the proliferation of all sorts of machines in recent years it has been all too easy to view computer science as a subject emphasizing programming, at the expense of the hardware side of the subject. As long as computer scientists have been able to take the machine more or less for granted, this approach, though narrow, has not necessarily proved disastrous. Hardware considerations could remain the preserve of the designers of successive generations of new machines although they too would be in danger of falling into the trap of undervaluing or even neglecting software considerations.

The advent of the microprocessor has brought all these matters into sharper focus. In some ways we have a return to conditions of earlier days. The microcomputer systems of today demand much of their users if they are to be used in other than routine ways such as office adjuncts or in the mass entertainment market. In a typical engineering or scientific application the user wants to interface the microprocessor to some piece of equipment in order to monitor and control its performance. Accordingly it is necessary to be able to make a considered choice of transducer and decide upon a suitable analog-to-digital converter, digital transmission system and interface procedure. The designer must be familiar with

system software and be capable of writing applications software at an appropriate level. Consideration of storage media and facilities for system test must be remembered. All these things were important in the past when minicomputers were used for such purposes. In view of the high cost of equipment, the need for a controlled environment and the provision of significant space, minicomputer systems were installed only after the most stringent scrutiny and cost-benefit analysis. However, the microcomputer system of today costs only a fraction of the minicomputer system of the 1960s, and the wide range of integrated circuit components and programming aids simplifies the designer's task greatly. As a result the engineer or computer scientist is more likely to be called upon to demonstrate wide-ranging skills than in the past. In effect a whole new perspective is opening up. The question is, how do the three books under review relate to the current situation?

Computer Science: an instructional manual has been written to relate the needs of both GCE Advanced Level courses and various first-year university and polytechnic courses in computer science. It assumes no previous knowledge on the part of the readers. The coverage is comprehensive but as a result the treatment is superficial in spite of its 430 pages. No hint of cost considerations is provided. To be fair, however, the author provides an integrated approach. Accordingly computers and their operation are discussed, as are peripherals and bulk storage media. Language, hierarchy, data structures, system software and applications programming are similarly treated. The book concludes with analog and hybrid computers, iteration, statistical methods and simulation. Appendices give sample answers to revision questions and discuss flow-charts and programming principles. BASIC is briefly discussed as an example of a high-level programming language.

The enthusiastic student will not be disappointed by this book. On the contrary, the beginner may be surprised by the sheer volume of work presented. This book can be no substitute for the careful teacher. Perhaps its most useful role is as a reference book to summarize the more detailed picture which the dedicated teacher can provide. Two examples illustrate the point. Yem

and microprocessor serves to emphasize the continuum of computer systems and avoids the common pitfall of regarding the microprocessor as a "special case". Throughout the book practical considerations such as cost are emphasized. This volume is definitely not a primer. It will be useful at university and college level and could be given safely to the enthusiastic student who wishes to gain some preliminary insights through private study.

Without peripheral devices, however, no computation is possible. They already embrace a very wide range of electromechanical concepts and new aspects of technology are being pressed into service at an alarming rate. However, books devoted to peripherals are few in number, a neglect which would seem surprising in view of the fact that they account for a good slice of the cost of computer installations.

Wilkinson and Horrocks have therefore provided a valuable contribution to the literature in this topic - entirely devoted to the microprocessor. The book is an excellent companion to Professor Colla's book. Both authors would have delighted in the descriptions of the mechanical devices which had been just beyond his grasp throughout his life and marvelled at the electronic devices which are still at the limit of current technology.

After the first two chapters have set the scene with a comprehensive survey of computers and their organization (coupled with interface methods, standard interfaces, protocols and bus systems) the volume embarks on a systematic approach to peripherals. All the traditional digital devices, such as keyboards and VDUs, printer and punched-card devices are discussed. Then comes comprehensive coverage of analog signal input-output in which principles are followed by specific applications. The authors then move on to graphic systems and modern data-entry devices such as optical mark-readers and optical character readers. Even voice input finds a place in the text, and the book concludes with a treatment of backing stores and data communication.

Michael Hartley

Michael Hartley is senior lecturer in the digital process group of the department of electrical engineering and electronics at the University of Manchester, Institute of Science and Technology.

BOOKS

Physiological catalogue

Physiology of Mammals and Other Vertebrates
by P.T. Marshall and C.M. Hughes
Cambridge University Press, £20.00 and £7.95
ISBN 0 521 22633 3 and 29586 6

Physiology is all about the way in which living organisms function. It is concerned with eating, moving, breathing, and so on - in fact, with the processes that keep animals alive. We can study the processes of digestion, locomotion and respiration in several ways. We may look at their structural correlates, so that our view of digestion encompasses the anatomy of the mouth, stomach and intestines. Another approach would be through the biochemistry of the living systems concerned and would involve a knowledge, for example, of the enzymes that break down food materials, or of the various metabolic pathways followed by the digestion products.

The anatomical and histological structure, however, can just as well be studied in dead animals, and biochemical events can very often be persuaded to occur in the test tube. Neither of these ways of looking at living animals really helps us much to understand how the structures responsible for digestion, respiration or locomotion are working. In other words, anatomy, histology and biochemistry, though perfectly valid methods for studying the animal kingdom, are not part of the discipline of physiology.

Not only does the science of physiology involve the manner in which animal or plant systems work, it is also about how the living organism adapts to its surroundings - for example, how it adjusts to changes in

temperature, or how it finds food, water and suitable living conditions. Finally and perhaps of most importance in physiology, we must include the concept of biological control systems and the way in which they act to integrate the functioning of all the tissues and organs that go to form the animal as a whole.

It is therefore a great pity that this book, despite its title, is little more than an anatomical catalogue plus an elementary biochemical account of a few members of the animal kingdom. One searches in vain for any understanding on the part of the authors that physiology involves function and that it asks "why" or "how".

As an example of the lack of physiological insight shown in the book one need only turn to the section on respiration, to examine how the authors treat what should be one of the most important parts of the subject matter. Nowhere is any mention made of dead space, in other words the problems that arise in most mammals when part of the respiratory apparatus contains volumes of gas not taking part in gas exchange. No account is given of how the respiratory function in birds has evolved to reach a partial solution by a particularly ingenious mechanism. Lung compliance is an important and fascinating aspect of a respiratory physiology in mammals; many really interesting experiments have been carried out upon it. They are not referred to.

Little experimental basis is given for the statements made in the text. Readers will find it hard to assimilate and evaluate the mass of anatomical details supplied instead, and will not readily appreciate that physiology is

first and foremost an experimental science.

There is some controversy at the moment regarding when, where and how physiology should be taught. One opinion is that it should be an entirely postgraduate field of work, a view that seems to me to elevate the subject to far too esoteric a level. Although as a subject, it is now taught mainly in first degree courses, I think the physician could well take its place in the Advanced Level curriculum alongside biology and zoology. In many respects, whether or not physiology would prove to be a successful school course, will depend on the availability of teachers and textbooks that are stimulating, and present the subject in the way that I have indicated. It is most important, in the formative years of their youth, that our future scientists are stimulated to develop a keen interest in the wonder of living things and how they work, and are encouraged to think for themselves about it. It is only too easy to provide textbooks as dull as ditch-water, because they are merely lists of boring facts, and likewise it is all too easy to teach a subject in such an unimaginative manner that all curiosity and interest is stifled in young people.

As authors of textbooks, and as teachers, we must not shirk the great responsibility of passing on to students our enthusiasm for the interesting, important, and very exciting things that can be found in the living world.

O.C.J. Lippold

O.C.J. Lippold is reader in physiology at University College London.

Varied habits of geese

Wild Geese of the World: their life history and ecology
by Myrta Owen
Batsford, £15.00
ISBN 0 7134 1831 6

Myrta Owen has been a conservation research officer for the Wildfowl Trust at Slimbridge, Gloucestershire, since 1967. He has had extensive experience with geese, both captive birds at Slimbridge and wild birds in Britain, Northern Europe and Canada, and has written over 20 scientific papers about the feeding, breeding and behaviour of geese (in the genera *Anser* and *Branta*). His objective in this book was not to simply catalogue the wealth of available information about geese, but rather to examine the reasons behind the various habits of geese and to answer the questions "how" and "why" as well as "what", "when", and "where".

The book is aimed at amateur and professional ornithologists, wildfowl and wildfowl biologists, and conservationists. Although professional biologists will be more familiar with the terminology, statistical manipulations and certain theoretical arguments, Dr Owen has avoided excessive scientific jargon and usually defines or gives synonyms for scientific terms. The line drawings are excellent and the eight colour plates are very good.

There are eight chapters in the book, beginning with two on classification and species accounts, followed by five about the behaviour and ecology of geese (social behaviour, movements and migration, summer biology, winter biology and population dynamics) and a concluding one on the conservation and exploitation of geese. All are at least very good, with those about behaviour and ecology being excellent as they contain a comprehensive, up-to-date synthesis of goose biology and some new analyses, interpretation and theories which deserve further study. The review of the controversy about the function of territories for breeding geese is a good example. Recently, two papers based on studies of four species - Ross, goose, pink-footed goose, snow goose and barnacle goose - have given different

hypotheses about why male geese defend a territory around the nest. Dr Owen gives a fair review of these hypotheses, shows how these species are ecologically and behaviourally quite different, and argues that their territoriality very likely evolved for different reasons (that is, there really should not be a controversy).

I disagree with Dr Owen that the V formation of flying geese is best explained as a signal "so that birds can recognize their own species at a distance". Why, in terms of natural selection, should a goose, or group of geese, care that another group, half a mile away, could recognize that they were geese?

The discussion of winter distribution is excellent but the section on navigation is mostly about birds not just geese. However, as Dr Owen points out, little is known about how geese navigate, except that young geese must be "taught" which way to go, and this finding is important in understanding why goose families stay together and why geese are so faithful to certain areas during migration and winter.

The treatment of summer biology in combination with that of population dynamics, certainly brings the reader up to date about breeding biology. The discussion contains some highly speculative hypotheses, but that, of course, is what makes science fun; I expect that Dr Owen had as much pleasure writing it as I had as much pleasure reading it. His prediction that because young geese are bred in geese pens so fast that they must be eating considerable animal protein (which would make them unique among geese) deserves further study.

A major conclusion that can be derived from this book is that North American biologists have mainly studied the breeding biology of geese while those in Britain and Europe have concentrated on winter biology. Thus, although much is known about wild geese, there is still much to be learned; and this book provides an excellent treatment of both. I think that Dr Owen has met his primary objective, and, importantly, he has done it so that both "goose biologists" and amateur naturalists will find this book useful and enjoyable. I note that of more than 400 cited references, about one-third have been published since 1975. If knowledge about geese continues to accumulate at that rate, Dr Owen will soon have to produce a revised edition.

C.D. Ankney

C.D. Ankney is associate professor of zoology (avian ecology) at the University of Western Ontario, Canada.

An appetite for seeds

Seeds and Their Uses
by Carol Duffus and Colla Slaughter
Wiley, £12.00 and £4.95
ISBN 0 471 27799 1 and 98 3

To write a book about seeds and their uses must be a daunting task. Our entire food supply, meat as well as vegetables, is the product directly or indirectly of the activities of plants, many of which are raised from seed. Furthermore, even in this age of synthetic materials, many natural products of seed plants such as wool, cotton and linen fibres are still of vital importance.

In this book, Carol Duffus and Colla Slaughter have restricted their subject matter more or less entirely to the production and processing of seeds used directly as food for man and farm animals. The use of seeds in the propagation of non-seed crops in agriculture, horticulture and forestry is hardly mentioned. Even so, the authors are to be congratulated on having compressed so much information into a volume of such modest dimensions.

The book begins, predictably enough, with details of the characteristic features of the main seed-producing crop plants, including the common cereals and legumes, cotton, cocoa, coffee, and oil and coconut palms. There is some information about their geographical distribution and the conditions needed for successful cultivation. Description of the structure of a selection of mature seeds follows. Use is made of a number of line drawings, but as these derive from a variety of sources they differ greatly in style and quality. As botanical terms are inevitably used, some without explanation, a glossary would have been helpful for the non-botanist.

The next chapter gives an account of the structural changes that occur in seeds during their development. Considerable attention is paid to the deposition of reserve food materials, some familiarly with the chemistry of carbohydrates, proteins and lipids and with the nomenclature of enzymes being assumed. Much detailed biochemical data is presented in tables and figures which have been reproduced, apparently unaltered, from a variety of publications catering for more specialized audiences. Several of the figures seem to be unnecessarily complicated and some of the abbreviations used may be unfamiliar to a number of readers. More explanation could have been given to some of the legends and keys to abbreviations provided for the uninitiated. It is to be hoped that chapter two will not cause the general reader to throw down the book at this point because for him the best is yet to come. Fortunately, much of the biochemistry can be taken for granted by those who are so inclined, without serious consequences for the understanding of later chapters.

The book is based in part on lectures in applied biology given at the University of Edinburgh and the authors consider that it will be of direct interest to students taking a variety of undergraduate courses elsewhere. Certainly there is something in it for everyone, although some, like me, may feel that their own field receives rather cursory treatment. Many will have their appetites whetted by the book and will turn to some of the references given at the end of each chapter for further information. All in all, a useful book.

James F. Sutcliffe

James F. Sutcliffe is professor of plant physiology at the University of Sussex, and editor-in-chief of *Annals of Botany*.

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NOTICE BOARD

Forthcoming Events

'Egalitarian Societies', the Malinowski memorial lecture by Mr James Woodhouse, senior lecturer in social anthropology, of the London School of Economics is to be given on May 5 at 5pm in the Old Theatre of the LSE, Houghton Street, Aldwych, Admission free.

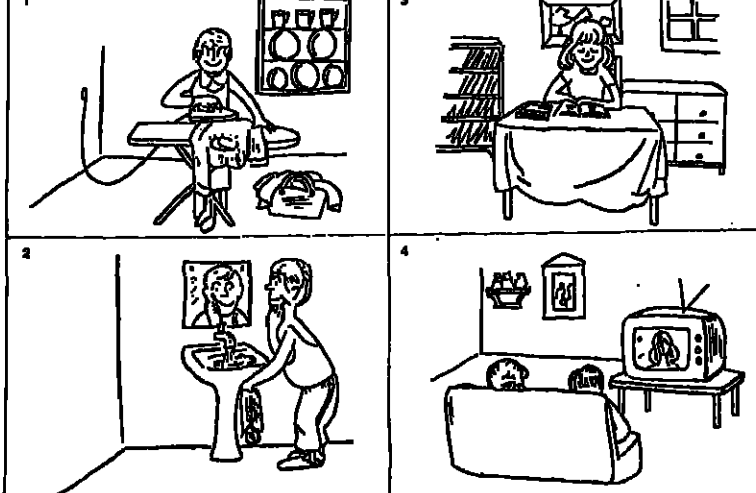
'The 1980s: A decade of challenge and opportunity for polytechnics and universities', a lecture by Prof Gareth Williams, professor of educational planning and director of the Institute for Research and Development in Post-Compulsory Education at the University of Lancaster is to be delivered at the Polytechnic of North London on May 5 at 5pm in Holloway Road, London N7. Admission free.

'Homes before Books before Machines' is the theme of the special university lecture by Mr Richard Hopper to be delivered on May 6 at 5pm in the lecture theatre of the Centre for Science and Mathematics Education, Chelsea College, London University, Bridges Place, London SW6 4HR.

'The Future of the Sixth Form', a conference to explore advantages and disadvantages of different systems of educating 16-19 year olds is being held this Saturday at 10am in the Scarborough Lecture Theatre of the University of Durham. Details from Terry Brown, school of education, Durham University, Leazes Road, Durham DH1 1TA.

'Africa: Writers Religion and Mysticism in African Literature', a course beginning on May 5 between 7-9pm in the Goldsmiths College of the University of London School of Adult and Social Studies. It will concentrate on a small group of literary texts selected so as to highlight the different ways in which fundamental problems of human identity and moral direction are viewed in different religious and cultural contexts. Fee: £5.00.

'Women and the Law', a course of eight weekly sessions begins at Middlesex Polytechnic's Enfield site on May 6 between 7-9pm. It will be held on eight consecutive Wednesdays. The course examines in depth women's relationship to the law and the effect of changes in legislation over the past ten years have had on their lives. Topics to be discussed include sex discrimination, legislation, women workers and the law. Fee: £10.00. Applications to Ms Barbara Ravis, Middlesex Polytechnic, Queensway, Enfield, Middx EN3 4SP.



'What are you doing, Joan? an illustrated, cutesheet part of a publication from the National Foundation for Educational Research, Oral Practice in the Language Laboratory, edited by J. V. K. Kerr. The booklet presents a selection of language laboratory materials for use in seminars and workshops for the in-service or pre-service training of teachers (£10.75 plus 80p VAT), from Darville House, 2 Oxford Road East, Windsor, Berks.

Nottingham
Registrar Designate: Mr Graham E. Chandler.

Newcastle upon Tyne
Promotions to senior lecturers: Dr R. K. Jordan (mathematics), Dr M. W. Marshall (physics), Dr A. J. Badger (chemistry), Dr H. Stewart (law and country planning), Dr W. D. Golding (zoology), Dr R. S. Johnson (applied mathematics), Dr M. S. Motsey (geology), R. E. Featherstone (civil engineering), Dr G. M. Firth (engineering mathematics), Dr R. Lesser (education).
Lecturers: Dr D. M. Macleod (Islamic studies, religious studies), A. Fowler (marine engineering), Dr W. J. Zakrzewski (mathematics).

Nottingham
Dance: Professor Gordon E. Cherry (faculty of commerce and social science).

Durham
Lecturers: Dr J. H. Anstee (zoology), P. J. Casey (archaeology), M. R. Crampton (chemistry), Dr Am L. Loades (theology), Dr A. W. Orde (history), Dr J. L. Coburn (physics), Dr J. L. A. Roche (music), C. J. Warburton (law), Dr W. J. Zakrzewski (mathematics).

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Nottingham
Dance: Professor Gordon E. Cherry (faculty of commerce and social science).

Grants
Aberdeen
Biochemistry — Dr E. R. Skinner — £26,403 from the NERC to enable him to continue his investigations on the principles underlying the effects of oil pollution in fish. The research is being carried out in collaboration with the Institute of Marine Biochemistry at Torry.

Birmingham
Chemistry — Dr S. P. Spragg — £10,615 from the Royal Society for semi-automatic optical comparator.
Physics — Dr G. R. Isaak and Dr H. B. van der Raay — £49,386 from the SRC for research on application of optical resonance scattering to solar physics.
Electronic and electrical engineering — £13,986 from the Post Office Procurement Executive for investigation of land mobile radio propagation in the 900 MHz band; — Professor R. E. K. Parkinson and Prof D. G. Hambley — £20,899 from Cancer Research Campaign for research on genetic susceptibility to cancer in may - in vitro transformed cell lines in view of the influence of mutation and immunological surveillance on the biological effects of carcinogens on cultured human epithelial cells.
Campaign for research on the biological effects of carcinogens on cultured human epithelial cells.
Campaign for research on the biological effects of carcinogens on cultured human epithelial cells.

Geological sciences — Professor D. H. Giffels — £12,673 from the NERC for geophysical investigation of salinity in aquifers.
Medicine — J. M. Morrison — £10,769 from Cancer Research Campaign for research on the pathogenesis of cancer, an evaluation of tumour parameters and tumour markers to select high risk patients at mastectomy.
£20,040 from the NERC for ultrastructural studies of human lymphoma, mechanisms of proteinuria and cell movement and interaction of microfilaments.
Pathology — Professor D. B. Brewer — £10,769 from Cancer Research Campaign for research on the pathogenesis of cancer, an evaluation of tumour parameters and tumour markers to select high risk patients at mastectomy.
£20,040 from the NERC for ultrastructural studies of human lymphoma, mechanisms of proteinuria and cell movement and interaction of microfilaments.

Southampton
Sir Bernard Miller, treasurer of Southampton University and lately chairman of the ULE Partnership has been awarded in L.D.

Honorary degrees
In our issue of April 17 it should be noted that the honorary fellowships under the heading Bristol do not refer to the university but to Bristol Polytechnic. The first fellowship was awarded to Mr Malcolm Anson, not Anso, as stated.

Thursday May 7
6.40 Sevastopol chronicle: England's descent of the sea (1618-1689) (Navigation (2221) (prog. 4).
7.00 The development of the modern world: Mid-19th century: School to Work (2331) (prog. 3).
7.30 History of mathematics: The Dorian Problem (2331) (prog. 3).
7.40 Surface and sedimentary processes: sea cliffs (2331) (prog. 3).
7.50 The evolution of the modern world: Mid-19th century: School to Work (2331) (prog. 3).
8.00 The evolution of the modern world: Mid-19th century: School to Work (2331) (prog. 3).
8.10 The evolution of the modern world: Mid-19th century: School to Work (2331) (prog. 3).
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48.30 The evolution of the modern world:

Universities continued

HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Applications are invited for a post of Lecturer in the Department of Electrical Engineering. Applicants should possess a higher degree and have a minimum of five years' experience in the field of electrical engineering. Preference will be given to applicants with teaching, research and other relevant experience in real-time embedded computer system and system programming. Annual salary (supplementary) is \$108,000 (\$115,400 + \$7,400 approx.). Starting salary will be based on qualifications and experience. As current salary scales will not exceed 15% salary, education allowance, leave and medical benefits are provided. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Science and Technology, 333 Science Museum Road, Hong Kong. The closing date for applications is May 11, 1981.

LIVERPOOL UNIVERSITY

Department of Political Theory and Institutions. Applications are invited for a Lectureship in the Department of Political Theory and Institutions. Applicants should have a research background in the field, together with a minimum of five years' experience in the field of political theory and institutions. Preference will be given to applicants with a research background in the field of political theory and institutions. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Liverpool, 69-71 Chester Street, Liverpool L69 3GB. The closing date for applications is May 11, 1981.

LIVERPOOL UNIVERSITY

School of Education. Applications are invited from suitably qualified persons for the post of Lecturer in the School of Education. Applicants should have a research background in the field of education, together with a minimum of five years' experience in the field of education. Preference will be given to applicants with a research background in the field of education. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Liverpool, 69-71 Chester Street, Liverpool L69 3GB. The closing date for applications is May 11, 1981.

MALAYA UNIVERSITY OF THE INSTITUTION OF ENGINEERS

Applications are invited for a post of Lecturer in the Department of Electrical Engineering. Applicants should possess a higher degree and have a minimum of five years' experience in the field of electrical engineering. Preference will be given to applicants with teaching, research and other relevant experience in real-time embedded computer system and system programming. Annual salary (supplementary) is \$108,000 (\$115,400 + \$7,400 approx.). Starting salary will be based on qualifications and experience. As current salary scales will not exceed 15% salary, education allowance, leave and medical benefits are provided. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Science and Technology, 333 Science Museum Road, Hong Kong. The closing date for applications is May 11, 1981.

LONDON GOLDSMITHS' COLLEGE

Lectureship in Social Anthropology. Applications are invited for a Lectureship in Social Anthropology. Applicants should possess a higher degree and have a minimum of five years' experience in the field of social anthropology. Preference will be given to applicants with a research background in the field of social anthropology. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of London, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

LONDON GOLDSMITHS' COLLEGE

Lectureship in Social Anthropology. Applications are invited for a Lectureship in Social Anthropology. Applicants should possess a higher degree and have a minimum of five years' experience in the field of social anthropology. Preference will be given to applicants with a research background in the field of social anthropology. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of London, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

An additional temporary replacement appointment must also be made and candidates should indicate for which of these they are applying. Salary on scale 65-771X12 in increments to £11,298 per annum (London Allowance).

LONDON THE CITY UNIVERSITY

Department of Mathematics. Temporary Lectureship in Mathematics. Applications are invited for the post of temporary Lecturer in Mathematics. Applicants should possess a higher degree and have a minimum of five years' experience in the field of mathematics. Preference will be given to applicants with a research background in the field of mathematics. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of London, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

PITTSBURGH UNIVERSITY OF ST. ANDREWS

Department of Logic & Metaphysics. Temporary Lectureship. Applications are invited for the post of temporary Lecturer in Logic and Metaphysics. Applicants should possess a higher degree and have a minimum of five years' experience in the field of logic and metaphysics. Preference will be given to applicants with a research background in the field of logic and metaphysics. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of St. Andrews, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

READING UNIVERSITY

Department of Construction Management. SRC Studentships. Applications are invited for SRC Studentships. Applicants should possess a higher degree and have a minimum of five years' experience in the field of construction management. Preference will be given to applicants with a research background in the field of construction management. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Reading, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

CAMBRIDGE COLLEGE

S.A. Cook Bye-Fellowships for Research. Applications are invited for S.A. Cook Bye-Fellowships for Research. Applicants should possess a higher degree and have a minimum of five years' experience in the field of research. Preference will be given to applicants with a research background in the field of research. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Cambridge, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

LONDON MIDDLESEX POLYTECHNIC

SRB Research in Technology. Applications are invited for SRB Research in Technology. Applicants should possess a higher degree and have a minimum of five years' experience in the field of research in technology. Preference will be given to applicants with a research background in the field of research in technology. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of London, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

UNIVERSITY OF LONDON INSTITUTE OF EDUCATION Marc Goldstein Memorial Trust Research Fellowship in Education for International Understanding

to be based in the Centre for Multicultural Education for one year from October 1981. A part time appointment for two years may be negotiated. Applicants should have substantial teaching and/or research experience and a keen interest in education for international understanding, cooperation and peace. Salary at appropriate point on Research Grade IB scale £5285-£7700 plus £687 London Allowance. Applications should be sent to Mrs Joyce Withers, Personnel Section, University of London Institute of Education, 20 Bedford Way London WC1H 0AL quoting reference RFI/MCC. Completed applications required not later than 15th May, 1981.

BIRMINGHAM THE UNIVERSITY OF ASTON

S.R.C. Linked Studentship. "The Women Lawyers: Areas of Strain in the Professional Career". Applications are invited for an S.R.C. studentship linked to the above project. The studentship is subject to the normal rules and conditions of S.R.C. studentships and will be awarded from September 1st, 1981.

LEICESTER UNIVERSITY

Department of Geography. S.R.C. POSTGRADUATE LINKED AWARDS IN EUROPEAN MIGRATION AND E.E.C. AGRICULTURE. Applications are invited from graduates or prospective graduates in Geography or an appropriate Social Science discipline for S.R.C. Linked Awards in European Migration and E.E.C. Agriculture. The awards are tenable for two years, with a salary of £1,200 per annum, plus a research allowance of £1,000 per annum. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Leicester, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

SURREY UNIVERSITY

Institute for Educational Research. S.R.C. QUOTA RESEARCH STUDENTSHIPS. Applications are invited for S.R.C. Quota Research Studentships. Applicants should possess a higher degree and have a minimum of five years' experience in the field of research. Preference will be given to applicants with a research background in the field of research. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Surrey, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

CORNWALL EDUCATION COMMITTEE

CORNWALL TECHNICAL COLLEGE, REDRUTH. DEPUTY PRINCIPAL. Applications are invited for the post of Deputy Principal. Applicants should possess a higher degree and have a minimum of five years' experience in the field of education. Preference will be given to applicants with a research background in the field of education. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Cornwall, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

LEICESTER POLYTECHNIC

School of Graphics. PRINCIPAL LECTURER (POST-GRAD). Applications are invited for the post of Principal Lecturer. Applicants should possess a higher degree and have a minimum of five years' experience in the field of graphics. Preference will be given to applicants with a research background in the field of graphics. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Leicester, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

PORTSMOUTH POLYTECHNIC

SCHOOL OF LANGUAGES & COMMUNICATIONS. Temporary Lecturer. Applications are invited for a temporary Lecturer. Applicants should possess a higher degree and have a minimum of five years' experience in the field of languages and communications. Preference will be given to applicants with a research background in the field of languages and communications. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Portsmouth, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

NORTH STAFFS POLYTECHNIC

ASSISTANT DIRECTOR of BUSINESS and SOCIAL SCIENCES. Applications are invited for the above post, duties to commence as soon as possible. Further details obtainable from the Clerk to the Governing Body, Belper Road, ST18 0AD (to whom completed applications should be returned by not later than 29th May, 1981).

PRINCIPAL LECTURER IN LAW with possible election to a PROFESSORSHIP

Applicants should have a good Honours degree in Law, have substantial experience of teaching on degree courses, and have a successful record of research and publications. Applications should be sent to Mrs Joyce Withers, Personnel Section, University of London Institute of Education, 20 Bedford Way London WC1H 0AL quoting reference RFI/MCC. Completed applications required not later than 15th May, 1981.

TRENT POLYTECHNIC NOTTINGHAM

Department of Mining and Surveying. LECTURER IN MINING. Applications are invited from graduates or prospective graduates in Mining or an appropriate Social Science discipline for a Lectureship in Mining. Applicants should possess a higher degree and have a minimum of five years' experience in the field of mining. Preference will be given to applicants with a research background in the field of mining. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Trent, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

THE POLYTECHNIC OF WALES

Department of Mining and Surveying. LECTURER IN MINING. Applications are invited from graduates or prospective graduates in Mining or an appropriate Social Science discipline for a Lectureship in Mining. Applicants should possess a higher degree and have a minimum of five years' experience in the field of mining. Preference will be given to applicants with a research background in the field of mining. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Wales, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

MANCHESTER POLYTECHNIC

Department of Management and Business. LECTURER IN MANAGEMENT. Applications are invited from graduates or prospective graduates in Management or an appropriate Social Science discipline for a Lectureship in Management. Applicants should possess a higher degree and have a minimum of five years' experience in the field of management. Preference will be given to applicants with a research background in the field of management. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Manchester, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

COVENTRY LANCHESTER POLYTECHNIC

Department of Systems and Control. READERSHIP IN CONTROL ENGINEERING. Applications are invited for a Readership in Control Engineering. Applicants should possess a higher degree and have a minimum of five years' experience in the field of control engineering. Preference will be given to applicants with a research background in the field of control engineering. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Coventry, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

LEICESTER POLYTECHNIC

School of Graphics. PRINCIPAL LECTURER (POST-GRAD). Applications are invited for the post of Principal Lecturer. Applicants should possess a higher degree and have a minimum of five years' experience in the field of graphics. Preference will be given to applicants with a research background in the field of graphics. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Leicester, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

PORTSMOUTH POLYTECHNIC

SCHOOL OF LANGUAGES & COMMUNICATIONS. Temporary Lecturer. Applications are invited for a temporary Lecturer. Applicants should possess a higher degree and have a minimum of five years' experience in the field of languages and communications. Preference will be given to applicants with a research background in the field of languages and communications. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Portsmouth, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

NORTH STAFFS POLYTECHNIC

ASSISTANT DIRECTOR of BUSINESS and SOCIAL SCIENCES. Applications are invited for the above post, duties to commence as soon as possible. Further details obtainable from the Clerk to the Governing Body, Belper Road, ST18 0AD (to whom completed applications should be returned by not later than 29th May, 1981).

Polytechnics

BIRMINGHAM CITY OF POLYTECHNIC

Faculty of Business Studies and Law. Department of Business and Management Studies. LECTURER IN MANAGEMENT SERVICES. Applications are invited for a Lectureship in Management Services. Applicants should possess a higher degree and have a minimum of five years' experience in the field of management services. Preference will be given to applicants with a research background in the field of management services. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Birmingham, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

NORTH LONDON THE POLYTECHNIC OF FACULTY OF ECONOMIC AND ADMINISTRATIVE STUDIES

TEMPORARY LECTURER IN QUANTITATIVE METHODS. Applications are invited for a temporary Lecturer in Quantitative Methods. Applicants should possess a higher degree and have a minimum of five years' experience in the field of quantitative methods. Preference will be given to applicants with a research background in the field of quantitative methods. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of North London, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

SUNDERLAND POLYTECHNIC

Faculty of Humanities. Department of Business Management. LECTURER IN MANAGEMENT STUDIES. Applications are invited from graduates or prospective graduates in Management or an appropriate Social Science discipline for a Lectureship in Management Studies. Applicants should possess a higher degree and have a minimum of five years' experience in the field of management studies. Preference will be given to applicants with a research background in the field of management studies. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Sunderland, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

LIVERPOOL POLYTECHNIC

Department of Law. TEMPORARY LECTURER II IN LAW. Applications are invited for a temporary Lecturer in Law. Applicants should possess a higher degree and have a minimum of five years' experience in the field of law. Preference will be given to applicants with a research background in the field of law. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Liverpool, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

EDINBURGH DUNFERMLINE COLLEGE OF HIGHER EDUCATION

LECTURER IN RECREATION MANAGEMENT. Applications are invited for a Lectureship in Recreation Management. Applicants should possess a higher degree and have a minimum of five years' experience in the field of recreation management. Preference will be given to applicants with a research background in the field of recreation management. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Edinburgh, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

LIVERPOOL POLYTECHNIC

Department of Law. TEMPORARY LECTURER II IN LAW. Applications are invited for a temporary Lecturer in Law. Applicants should possess a higher degree and have a minimum of five years' experience in the field of law. Preference will be given to applicants with a research background in the field of law. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Liverpool, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

MANCHESTER POLYTECHNIC

Department of Management and Business. LECTURER IN MANAGEMENT. Applications are invited from graduates or prospective graduates in Management or an appropriate Social Science discipline for a Lectureship in Management. Applicants should possess a higher degree and have a minimum of five years' experience in the field of management. Preference will be given to applicants with a research background in the field of management. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Manchester, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

PORTSMOUTH POLYTECHNIC

SCHOOL OF LANGUAGES & COMMUNICATIONS. Temporary Lecturer. Applications are invited for a temporary Lecturer. Applicants should possess a higher degree and have a minimum of five years' experience in the field of languages and communications. Preference will be given to applicants with a research background in the field of languages and communications. Further particulars and application forms may be obtained from the Assistant Director of Academic Affairs, University of Portsmouth, 100 Brookline Drive, London W14 9BT. The closing date for applications is May 11, 1981.

Colleges of Higher Education

HULL COLLEGE OF HIGHER EDUCATION

Applications are invited from suitably qualified and experienced persons for the following posts: L2/SL - EUROPEAN BUSINESS/EXPORT MARKETING. L2/SL - APPLIED OFFICE TECHNOLOGY. L2 - BIOCHEMISTRY/ORGANIC CHEMISTRY. L2 - NAUTICAL STUDIES. L2 - MARINE ELECTRONICS. SENIOR LECTURER: £9624 - £11328 (BAR) - £12141. LECTURER 2: £6462 - £10431. Application forms and further details from: The Personnel Office, Hull College of Higher Education, Ingleside Avenue, Hull HU16 7LU. Tel: (0482) 42167. Closing date for applications: 11.5.81.

LANCASTER COLLEGE OF HIGHER EDUCATION

Applications are invited from suitably qualified and experienced persons for the following posts: L2/SL - EUROPEAN BUSINESS/EXPORT MARKETING. L2/SL - APPLIED OFFICE TECHNOLOGY. L2 - BIOCHEMISTRY/ORGANIC CHEMISTRY. L2 - NAUTICAL STUDIES. L2 - MARINE ELECTRONICS. SENIOR LECTURER: £9624 - £11328 (BAR) - £12141. LECTURER 2: £6462 - £10431. Application forms and further details from: The Personnel Office, Lancaster College of Higher Education, Ingleside Avenue, Hull HU16 7LU. Tel: (0482) 42167. Closing date for applications: 11.5.81.

CHELTENHAM COLLEGE OF HIGHER EDUCATION

Applications are invited from suitably qualified and experienced persons for the following posts: L2/SL - EUROPEAN BUSINESS/EXPORT MARKETING. L2/SL - APPLIED OFFICE TECHNOLOGY. L2 - BIOCHEMISTRY/ORGANIC CHEMISTRY. L2 - NAUTICAL STUDIES. L2 - MARINE ELECTRONICS. SENIOR LECTURER: £9624 - £11328 (BAR) - £12141. LECTURER 2: £6462 - £10431. Application forms and further details from: The Personnel Office, Cheltenham College of Higher Education, Ingleside Avenue, Hull HU16 7LU. Tel: (0482) 42167. Closing date for applications: 11.5.81.

EDGE HILL COLLEGE OF HIGHER EDUCATION

Applications are invited from suitably qualified and experienced persons for the following posts: L2/SL - EUROPEAN BUSINESS/EXPORT MARKETING. L2/SL - APPLIED OFFICE TECHNOLOGY. L2 - BIOCHEMISTRY/ORGANIC CHEMISTRY. L2 - NAUTICAL STUDIES. L2 - MARINE ELECTRONICS. SENIOR LECTURER: £9624 - £11328 (BAR) - £12141. LECTURER 2: £6462 - £10431. Application forms and further details from: The Personnel Office, Edge Hill College of Higher Education, Ingleside Avenue, Hull HU16 7LU. Tel: (0482) 42167. Closing date for applications: 11.5.81.

CENTRAL SCHOOL OF SPEECH AND DRAMA

Lecturer Grade II Stage Manager Course. The person appointed will teach theatre history, stage lighting, perform the duties of lighting designer and take charge of maintenance. Extensive professional theatre and teaching experience are essential for this post. Salary on an incremental scale within the range of £6,462-£10,431 (plus £759 Inner London Allowance). Starting point depending upon qualifications, training and experience. Details and application form from: The Secretary, Central School of Speech and Drama, Embassy Theatre, Eton Ave., London N.W.3.

CAMBRIDGESHIRE COLLEGE OF ARTS AND TECHNOLOGY

Head of Department of Engineering. Applications are invited for the headship of this Grade V Department of Mechanical and Electrical Engineering which becomes vacant from 1 January 1982 on the retirement of the present holder. Applicants must have a minimum of five years' experience in the field of engineering. Further particulars and application forms may be obtained from the Principal, CCAT, Cambridge CB1 2AL, to whom completed forms should be returned within 14 days of the appearance of this advertisement.

LOUTHBOROUGH COLLEGE OF ART & DESIGN

Applications are invited for the headship of this Grade V Department of Mechanical and Electrical Engineering which becomes vacant from 1 January 1982 on the retirement of the present holder. Applicants must have a minimum of five years' experience in the field of engineering. Further particulars and application forms may be obtained from the Principal, CCAT, Cambridge CB1 2AL, to whom completed forms should be returned within 14 days of the appearance of this advertisement.

REMINDER COPY FOR ADVERTISEMENTS IN THE THES SHOULD ARRIVE NOT LATER THAN 10A.M. MONDAY PRECEDING THE DATE OF PUBLICATION

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Colleges of Higher Education

HULL COLLEGE OF HIGHER EDUCATION

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CHELTENHAM COLLEGE OF HIGHER EDUCATION

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Colleges of Higher Education

HULL COLLEGE OF HIGHER EDUCATION

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LANCASTER COLLEGE OF HIGHER EDUCATION

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CHELTENHAM COLLEGE OF HIGHER EDUCATION

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EDGE HILL COLLEGE OF HIGHER EDUCATION

Overseas continued

Hoggett Bowers

Executive Selection Consultants

BIRMINGHAM, CARDIFF, GLASGOW, LEEDS, LONDON, MANCHESTER, NEWCASTLE, NOTTINGHAM and SHEFFIELD

College of Health Services - Bahrain

A public governmental institution of further education, funded and administered by the Ministry of Health. Each post may be either married or bachelor status. Benefits include:-

- Salary paid free of local taxes
- Generous vacation
- Home leave air fares paid
- Free accommodation
- Educational assistance
- Two year contract renewable
- Stable political climate

Educational Evaluation Expert

(Development and Learning Resource Centre) to £14,775

The successful applicant will manage the Centre and have a broad range of responsibilities. These encompass planning and conducting workshops, developing policy and guidelines on examinations and determining the validity and reliability of tests. Candidates should ideally have a Masters degree in Education with specialisation in Evaluation plus 2 years' experience in the Educational Centre of a Health Institute. However a B.Sc. plus a longer period of practical experience could be acceptable. Ref: 17156/THES.

Lecturers

(1)Anatomy and Physiology (2)Physics (3)Mathematics (4)Nursing Studies to £11,500

Applicants for the first three posts should have either a Ph.D in the relevant discipline plus one year's teaching experience or a M.Sc. plus two years' experience. The Lecturer in Nursing Studies requires a background of teaching in general nursing, obstetrics, medical, surgical or paediatric. Experience in teaching undergraduate nursing students would be an advantage. Ref: 17157/THES.

Male or female candidates should telephone in confidence for a Personal History Form, quoting appropriate reference to: E. Sutton, 01-734 8832, Sutherland House, 5/6 Argyl Street, LONDON, W1E 6EZ.



TOYNSVILLE COLLEGE OF ADVANCED EDUCATION QUEENSLAND, AUSTRALIA

DEAN OF STUDIES

Applications are invited for appointment to the newly established senior position of Dean of Studies. The role of the appointee is to assist the Director in college-wide administration with specific responsibilities for the co-ordination of teaching functions. The College offers a range of Teacher Education programs and associate diploma programs in Business Studies, Community Welfare, and Performing Arts. The Dean of Studies will be responsible for overall co-ordination of the offering of these programs by the two academic departments - Education Studies and General Studies - and the staffing of these departments. He or she will provide leadership in the development of new programs and the further development of the external offering of programs.

QUALIFICATION: Applicants should possess academic qualifications appropriate for a senior appointment, demonstrated capacity for leadership, organisational and administrative ability, and experience in teaching and administration in a tertiary educational institution.

SALARY: \$62,323 per annum.

Applications, including a curriculum vitae, details of qualifications and experience, and the names of three referees should be forwarded to The Registrar, Toynsville College of Advanced Education, P.O. Box 117, Albionville, Qld., Australia, 4814.

CLOSING DATE: 15 May 1981.

FACULTY POSITIONS (FALL 1981)

Electrical Engineering Technology Industrial Engineering Technology Manufacturing Engineering Technology Mechanical Engineering Technology

Engineers to teach courses and to develop curriculum in 350 student upper-division engineering technology programs in Controls, Digital Systems, Communications, Mechanical Design, Electromechanics, Manufacturing, Material Science, Microprocessors, Industrial and Robotics. New laboratories with \$2,000,000 of equipment. Salary: mid-levels. Qualifications: Ph.D. or master's with appropriate industrial/academic experience.

Please send resume and letter of application by June 1, 1981, to receive full consideration, to:
Director of Personnel, SUNY College of Technology, Box 5107, 811 Court Street, Utica, NY 13502, U.S.A.

AN EQUAL OPPORTUNITY/
AFFIRMATIVE ACTION EMPLOYER

NATIONAL UNIVERSITY OF SINGAPORE

FACULTY OF LAW

Applications are invited for teaching appointments in the Faculty of Law. The Faculty is especially interested in candidates with postgraduate qualifications in law and relevant teaching/research experience in the following areas: Jurisprudence, Conflict of Laws, Shipping Law, Insurance Law and Banking Law.

Gross annual emoluments range as follows:
Lecturer: \$22,250 - 44,910
Senior Lecturer: \$33,820 - 87,200
Associate Professor: \$55,410 - 70,200

The point of entry depends on the candidate's qualifications, experience and the level of appointment.

For staff appointed on normal contract, employment on the permanent establishment will be considered after the initial 3-year contract. Leave and medical benefits are provided.

Under the University's Academic Staff Provident Scheme, the staff member contributes at the present rate of 18% of his salary subject to a maximum of \$540/- p.m., and the University contributes 20% of his monthly salary. (The sum standing to the staff member's credit in the Fund may be withdrawn when he leaves Singapore/Malaysia permanently).

Other benefits include: a settling-in allowance of \$5,000-20,000 depending on circumstances, subsidised housing at rentals ranging from \$5,000-25,000 p.m., passage assistance and baggage allowance for transportation of personal effects to Singapore.

For appointments at senior level, short-term visiting contracts may be offered. For such appointments, additional benefits will include transport and children's educational allowances. (G = \$4.58 approx.)

Average income tax paid by academic staff of the University at a percentage of gross annual salary is as follows: Lecturer - 2%, Senior Lecturer - 10%, Associate Professor - 20%.

Candidates should write to:

The Head, Recruitment Unit
National University of Singapore
Kent Ridge, Singapore 0511

giving their curriculum vitae and also the names and addresses of three referees.

UNIVERSITY OF NATAL

Department of Accountancy, Durban

Applications are invited from suitably qualified persons regardless of sex, religion, race, colour or national origin for appointment to the post of:

SENIOR LECTURER/LECTURER

The salary scale attached to the post is: Senior Lecturer: R14,250 - R10,000 per annum; Lecturer: R10,000 - R10,000 per annum.

A successful candidate will be expected to teach and supervise students in the Department of Accountancy (B.A.) who are engaged in the B.Com. (Accounting) and B.Com. (Accounting and Auditing) degrees.

The corresponding salary scale for the post of Lecturer is: R10,000 - R10,000 per annum.

Applicants should send their curriculum vitae, details of qualifications and experience, and the names of three referees to the Head of Department, Department of Accountancy, University of Natal, King George V Avenue, Durban 4001.

Applicants should also send their curriculum vitae, details of qualifications and experience, and the names of three referees to the Head of Department, Department of Accountancy, University of Natal, King George V Avenue, Durban 4001.

THE UNIVERSITY OF NEW ENGLAND AUSTRALIA

DEPARTMENT OF AGRICULTURAL ECONOMICS
AND BUSINESS MANAGEMENT
SENIOR TUTOR OR TUTOR

Senior Tutor

The appointee is required to provide a significant input to the Department's teaching programme in business management and marketing by way of leading learning groups, some lecturing and assistance in course development. The appointee will also be required to organise the department's tutorial work. Applicants should be graduates and preferably should hold a postgraduate qualification in business management.

Tutor

The appointee will be required to conduct tutorials, supervise practical classes, mark assignments, advise students and assist in the preparation of teaching material.

Applicants should be graduates or hold equivalent qualification. Preference will be given to applicants with a degree in agricultural economics, economics or agricultural science majoring in agricultural economics.

The Department is seeking to appoint a person with training and experience in farm management but applications from people who have specialised in other areas of agricultural economics will also be considered. Appointees will be encouraged to enrol in a research degree.

Salary: Senior Tutor A\$16,489 to A\$18,880; Tutor A\$13,587 to A\$16,009. Closing date: 16th May, 1981. Position No. 474.

Applications, including the names and addresses of three referees and stating the position number should be sent to the Staff Officer, The University of New England, Armidale, New South Wales, 2351 Australia, prior to the closing date.

THES2

UNIVERSITY OF CAPE TOWN SENIOR LECTURER IN ROMAN-DUTCH LAW

Applications are invited for the above post, vacant as from 1st January 1982.

Applicants must possess a University qualification in Law, a thorough knowledge of both classical Roman Law and of modern South African Law.

The successful applicant will be expected to teach the Law of Marriage to second year BProc and Preliminary LLB students, and the Law of Succession to Intermediate LLB students. Special interests can be pursued in the Capricornia Selecta courses.

Staff benefits include 75% rebate on tuition fees for dependants at UCT, generous study leave privileges, housing subsidy subject to certain conditions, pension fund, medical aid and group life insurance scheme.

Applicants should submit a curriculum vitae, stating age, present salary, professional, teaching and research experience and interests, publications, and the names and addresses of three referees. Further information is obtainable from the Registrar, University of Cape Town, Appointments Office, Private Bag, Rondebosch, 7700, South Africa.

Applicants must be recruited not later than 31st July 1981.

The University's policy is not to discriminate in the appointment of staff on the grounds of sex, race or religion. Further information on the implementation of this policy is obtainable from the Registrar.

THES2

Courses

HERTFORDSHIRE COLLEGE OF ART & DESIGN

7 Hatfield Road, St. Albans,
Herts. AL1 3RS
Tel: St. Albans 6444

SUMMER SCHOOLS

Non Residential Courses, 12th July
- 17th July 1981.

Aspects of the Arts in Therapy

Workshops in Art or Drama
Therapy suitable for experienced
Arts Therapists or an introduction
to creative therapy.

Visual Research: Theme - The Human Figure

Workshops for Painting, Drawing,
Printmaking and Photography.
Fee: £50 (lunch included).
Details from The Principal, at the
College, Large S.A.E. please.

THES1

General Vacancies

Technician Education Council

PART-TIME MODERATORS 1981-1982

The Council invites applications for the increased number of part-time moderator posts that will be available for the 1981-82 year.

The moderators play a key role in establishing and maintaining the standards of the Council's awards by monitoring the operation of TEC programmes and assessment arrangements.

Applicants should be qualified to an appropriate level and have recent experience relevant to these duties.

There will be vacancies across the whole spectrum of TEC programmes (particularly higher awards) but especially in the fields of Art and Design, Physics and Chemistry, Catering and Food Technology, Building and Civil Engineering, Building Engineering Services, Electrical and Electronic Engineering, Mechanical and Production Engineering and Motor Vehicle Engineering/Management.

Further details and application forms may be obtained from:

The Moderator Section
Technician Education Council
76 Portland Place
London W1N 4AA.

Union View

When diversity becomes the Achilles heel

Most observers of the education scene have always regarded the rich diversity of the public sector further and higher education system as its greatest strength, together with the flexibility which such diversity makes possible. The diversity of provision is indeed an impressive, encompassing a whole galaxy of courses, both vocational and non-vocational, varying in length from a year or two to a week to full-time postgraduate degree and diploma provision.

However, the economic situation of the last few years and especially of the last 18 months or so leads one to question whether the erstwhile strength of the system is not fast becoming its greatest weakness.

During the past months, the absence of any organization or group of organizations which can speak authoritatively for the whole of the public sector has become increasingly apparent, as the need for some such organization has become more acute.

Certainly the National Association of Teachers in Further and Higher Education and the Association of Principals of Colleges can speak with considerable authority for the staff and principals in the institutions, although too often there is a tendency by some people to discount what they see as "merely" motivated by the interests of members. Both associations are obviously very properly concerned with protecting their members' interests; such concern does not, however, invalidate their views on other matters which are of more general educational and professional interest.

The Association of Colleges in Higher and Further Education, although enjoying considerable pres-

ence and performing a valuable function, is somehow not the focus which some hoped it might have become, and the Association of Advanced and Continuing Education, the Committee of Directors of Polytechnics and Standing Conference by their very nature, are each able to represent only a part of the whole. None of the organization referred to above includes the local education authorities.

In a time of expansion such proliferation of bodies was tolerated and indeed welcomed as a symptom of the diversity of which the system is justly proud. But in a time of severe and, as far as observable effects are concerned, largely ill thought out and uncoordinated cuts such proliferation of organizations claiming to speak for FHE is a clearly identifiable weakness in the system.

The eventual creation of some kind of planning body for public sector higher education will, it must be hoped, make some contribution as far as AFE is concerned, although if its remit is anything like that fore-shadowed in the leaked Department of Education and Science memorandum such a body is likely to be more concerned with dismantling than promotion.

In any event the hiving off of a group of institutions within the public sector can only weaken that sector. A brief catalogue of some of the more noteworthy attacks on FHE recently will serve to indicate its vulnerability. In some parts of the country adult education has virtually ceased to exist and in others it is being rapidly priced out of the pockets of many people. In the past year some 700 jobs in FE have been lost and there are clear indications that this trend will continue.

A recent survey undertaken by Nuffield in the colleges indicates the number of valid and useful courses which are being discontinued in order to achieve short-term savings and the number of students who are therefore having to be turned away. This number runs into many thousands. The method used to "cut" the Advanced FE Pool—and the haste with which it was done—caused the maximum of structural damage and

disruption to the education of many thousands of students. The government's expenditure White Paper published in March makes it clear that it intends the public sector—note for instance the number of times the words "especially in the public sector" appear in the White Paper.

It may well be that all these things would have happened even if there had been one organization which could speak for the whole of the public sector. Certainly existing organizations within FHE have made as much noise as they could, protesting about the cuts and indicating the effects which they are having on provision. But it is just possible that a concerted, coordinated response by the whole of FHE to the mounting attack on education might have had a mitigating effect, even if this was only at the margin.

One proposal which has attracted a wide measure of interest is the establishment of coordinating machinery for the whole of post-school education. This could take the form of a single unified Government department or a representative body to plan and allocate resources for the whole sector and to negotiate with Government. Such a representative body would go a long way to filling the gap which at present leaves public sector further and higher education unprotected. The idea for a coordinating body put forward in the Oakes and Price reports and in Nuffield policy, may provide the seed of such a solution.

Perhaps it is time that the various bodies in FHE become somewhat less aware of their unique positions and a little more aware of the need to work together to try and protect the whole system from the external assault under which it is now reeling. Certainly, if some protection is not afforded to FHE very soon, there will no longer be a system.

Janey Rees

The author is education secretary of the National Association of Teachers in Further and Higher Education.

A jamboree for travelling supersellers



Keith Hampson

First it was Supermac; now it is Superwoman or rather Supersaleswoman. As the *New Standard* asked last week: "Can anyone imagine Michael Foot extolling the virtues of dual training and ground strike air-craft?"

Yes—and the mind boggles.

The Arabs are innately conservative. They will warm to a Conservative prime minister, even a female one, rather than to a long haired, elderly, swinging, but the enthusiasm from all quarters for arming the Arabs has clearly more to do with British jobs than any awareness of Communist threats to our oil supplies. The Ministry of Defence always saves itself from the long deferred Treasury axe because it has always successfully claimed a dual utility: protection of the realm and jobs for the people. It is the Department of Education and Science's tragedy that education has failed to make the same case.

Not only so, vocational relevance is a very important consideration in deciding priorities in higher education, particularly in the polytechnics and the colleges of higher education. It is the one thing which

even an economy minded government will view with favour. The new Microelectronics in Education programme and the Department of Industry's Micros in Schools scheme are cases in point.

No one would want universities to be passive clients of industry, but thought of a growing dependence brings to the surface a longstanding class of values, though the responsiveness is rather less hysterical than a decade ago.

Necessity is the mother of invention: many universities and polytechnics have energetically gone out into the market place, or have redoubled their efforts there. But why not take a leaf out of the MoD's book? Education should be as marketable as armaments. There may not always be the immediate jobs in manufacturing industry which flow from defence orders but the spin-offs could be substantial, both for the educational world and the country.

For the university, export which can help support its research and contribute to the quality of life in a place of higher learning but which are themselves not marketable. New projects otherwise starved of money can be funded. And additional revenue would help to square institutional priorities with the manpower plans of governments.

For the country, a wide range of contracts may follow for anything from the purchase of books and teaching materials to entire laboratories, even sets of buildings, being built and equipped by British companies. For example, our expertise, in designing parapsychological courses could lead to seminars around the world buying British throughout their careers.

There are some notable success stories already. Things might not have turned out in Iran as well as they might for the Open University, the Shah's interest being worth over £100,000 to the Open University, but the university has contracts in Venezuela and elsewhere in South America. Two Open University consultants have been to China. To market its wares the Open University has established a wholly owned subsidiary company, Open University Educational Enterprises Ltd.

Through its agents it markets the university's course units, films, tapes and home experiment kits, and last year made £82,500 net profit.

In the polytechnic world, Central

London Poly is possibly unrivalled in this area. Every member of staff going abroad has an extra selling mission thrust upon him, and there are 15 to 20 out and about on any one day. Members of the polytechnic won an eight year contract to establish the Ngee Ann Technical College in Singapore: buildings, staffing, course design and validation, all coming within their responsibility. They have been involved in drawing up the specifications for universities and technological institutes in Nigeria, Saudi Arabia, Indonesia and the Gulf.

Who knows the full scale of the market? It might run to over £100m. But are we, as institutions and as government, putting enough effort into it?

Scores of institutions need to adopt a more aggressive marketing role, and to organize properly for it. Members of staff can be perpetric salesmen, as well as recruiters of overseas students. Companies who are successful, say in the Gulf, need tracking down with an eye to joint contracts. As long as local authorities own the polys, there will of course be little incentive for those institutions.

Government can do much to help. Mr Cecil Parkinson, the trade minister, constantly travels the world with appropriate teams of businessmen. Official visits can open doors more easily, can finally clinch a deal after protracted negotiations. The housing minister is to visit Nigeria to boost the British construction industry. Ministerial visits geared to our water industry are organized in Africa and the Middle East.

But where is the DES in all of this? It looks as though they are slow on the uptake again. The Foreign Office is cultivating Mexico and Mark Carlsile's trip, there has in part a commercial function. But over the years, there have been scores of visits abroad by ministers and DES officials—all to look and to learn, not to sell.

The Ministry of Defence has its own salesmen, so why not the DES? Let's get organized. There is a small Science and International Division at the DES, but it has no sales role. Yet there is a major coordinating job to be done: there is a need for a broker.

Don's diary

Monday

Certainly driving in this morning earth had few things to show less fair than the flooded fields of the Soar Valley. Threading one's way through the usual steaming complement of cycling and jogging colleagues, one felt a wistful sadness at the wanton squandering of so much precious muddy fat, which alone could have safely sequestered the pernicious diesel and pesticide residues which shroud our lanes and byways.

Began with a Monday surgery for using undergraduate and postgraduate research projects, playing the heavy for the most part, but rather unconvincingly. Broke off to help complete yet another grant application, already a day overdue, and despatched it hopefully, to come to rest we know not where.

Dined royally on the inevitable cheese sandwiches in preparation for an afternoon swallowed by a meeting of our publicity committee, whose shabby existence normally goes unnoticed, paradoxically it may be thought, by much of the faculty. The incongruity of academics in an uncustomed PR role is not lost upon us, but this year with an Open Day to organize we must not shrink. On a previous occasion some four thousand people felt somehow a little cheated by the free parking, admission, programmes and all the advice that as applied scientists we were able to offer, and seemed resentful at having to take their money home again. This time we are well placed to do a very nice line in antiquated mahogany and brass pulanets, and scrap centrifuge rotors/pot plant holders. A rather limp, although still impressive, model of the double helix in its initial cabinet would surely grace any home. Cometh the hour, cometh Mito Minderbinder, but there must be a university statute against it.

Hurried up to Nottingham to hear a lecture seminar. There's probably a promising thesis to be written on the way that the traditional beards, pipes and leather elbow patches of the working scientist have all but vanished in a monetarist climate.

At this point the reader may suspect that the exponential law is once more closing in upon the growing diarist, something to do with the dissipation of energy and the second law. This is not altogether true, it's just that this was a clandestine day in the laboratory, testing an idea which arose out of Monday's seminar, but which of course had only been made possible because a kind technician had worked selflessly for several days to prepare materials.

It is hard to shut out the subliminal screams of the unmarked assignments, to momentarily ignore the relentless march of new journals and to turn a deaf ear to the pleading of the library girls bewailing their unreturned volumes now accruing fines at 1p per day; on the other hand, the therapeutic value of four or five hours with a spectrophotometer should not be underestimated. At the end of this period, festooned with chart paper, I pronounced myself well-pleased with the results.

Heaped up unrealistic piles of paperwork for the weekend and returned to the laboratory to find considerable amusement, and the floor awash, as the cooling system of the equipment which I have been using burns its banks, and the curtain comes down on another weekly episode.

Ronald Bardsley
The author is lecturer in biochemistry at the University of Nottingham's school of agriculture at Sutton Bonington, Loughborough.

Thursday

The last lectures and seminars of the term, touching upon aspects of recombinant technology, beside whose elegance even the above-mentioned DNA model begins to resemble a rusty bed spring. If only the jargon weren't so impenetrable, even to a biochemist—an evening of Vogan poetry would perhaps be less demanding, if we are to judge from the *Hitch-hiker's Guide*.

Wondered whether to sneak the one in about the depressed genetic engineer who, having inserted the cauliflower genes into water-melon seeds and grew a little melancholy. Wisely decided to leave out this pearl—a no red-nosed, check-suited comic, dying twice nightly on the boards of the local Alhambra could teach anything in terms of staid resignation to the university lecturer with a class whose eyes are already fixed on finals.

An unusually pleasant afternoon, when, one of the advantages of our rural campus, one may cheat for a lunchtime stroll around the nearby village.

Eponymous larks ascended, rocks winged the midway air, Edgar surged on the soundtrack. Hands clenched behind the back, face beatific, I passed a couple of rusties who smiled knowingly to one another and tapped their temples in acknowledgement of higher planes of thought, before returning to less exalted country matters, probably the effect of monetarist policy on the devaluation of the green pound, or vice versa.

Friday

These are, traditionally, dangerous days to be seen abroad in the Senior Common Room, recruitment for the end-of-term staff/student's rugby game being at its height. Although certainly quite safe, just it this year, there is still the lingering fear that obvious infirmity has been insufficient excuse on previous occasions, and USS benefits are not that reassuring. At such times, as I recall, all the telephone booths in the district are fully occupied by the same pimply youths whom one had goaded unforgettably for their ineptitude in the laboratory, changing into rugby kit and somehow emerging a foot taller and several stones heavier. Even if the game itself doesn't incapacitate one, I remember the evening session completes the exercise.

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Tuesday

Torn away from increasingly desperate preparations for a forthcoming conference to sit enthroned as invigilator over 100 tolling second year students. One's natural feelings of sympathy for the supplicants—mixed with a certain apprehension least H-K row should suddenly crack and begin the *sotto voce* chanting of mantras—is tempered by the realization that the office furniture will only take so much in the way of unmarked scrips, and already resembles the topless towers of lecher Manhattan.

Reading through the first dozen is always quite enjoyable in a narcissistic sort of way, while the next couple of dozen sees the complete and rigorous examination of all possible modes of misinterpretation, but it's the last 70 or so which, irrespective of quality, should carry a Government health warning.

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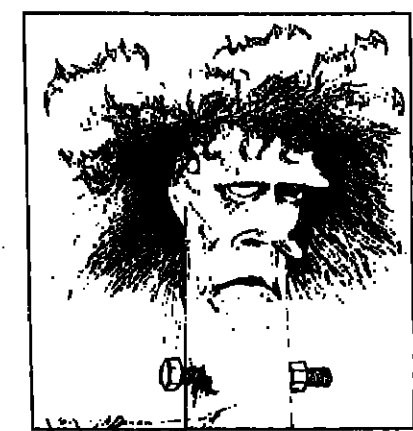
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Laurie Taylor



May 1, 1981.

Dear Bursar,

Thank you for your letter of April 23rd, inviting me to submit this department's minor works bid for the coming academic year. You do point out that it is now AUT policy to reserve equipment and building funds for the maintenance of academic posts, but it was still felt by our recent board of studies meeting (albeit on a close vote) that the following minor works should take some marginal precedence over the vitally important question of keeping all academics in permanent employment.

Door on Dr Codgrove's room.

Basically, held like one. This is not, as the minutes of your committee discussion last year seemed to suggest, merely an example of Dr Codgrove's conventionality. His quite practical argument is that the through draught generated by the lack of a door and a severely damaged window pane (see item 19 of last year's supplementary bid) makes it impossible on windy days for students to retain hold of their seminar papers.

Hole in floor of secretarial office (A12).

This is a further item from last year's list but I have now given it a higher priority in view of the escalating nature of the problem. Last year, as you will recall, I referred to the minor irritation of pencils, paper clips and small documents being lost through the two inch gap which had appeared across the entire width of our secretarial office. The gradual increase in the width of the gap over the year to 14 inches does now mean that the secretarial efficiency of the department is being seriously impaired. Staff have done their best to adapt to this new predicament but the presence of such a large hole in the middle of a busy office means that some minor accidents are inevitable. Losses through the hole in just the last three months, for example, include a small filing cabinet, a wire stapling machine, two ashtrays, a wastepaper bin (stainless steel), and for a period of nearly two hours, the academic publishing representative of George Allen Unwin.

Wall mould in staff offices (A7, A8, A9).

The green wall mould which was reported to the minor works committee last year and which appears to emanate from what used, in happier days, to serve as the central heating system for our departmental offices is now increasingly a matter of complaint by colleagues resident in the infected areas.

Dr Greshams in room A7 is particularly affected: the mould in his room is not unfortunately restricted to the area around the radiator but has now descended the wall and begun to make rapid progress across his blackboard. I appreciate that Dr Greshams is inclined to express himself in somewhat emotional terms, and I personally regret that he chose to write independently to your committee, expressing his belief that "it was out to get him". I hope this outbreak will be allowed to obscure a very genuine problem. Finally, you will note that I have not this year given any priority to skirting board repairs. This is not because this matter has become any less serious. However there seemed little point in actually replacing these boards while the essential causes of the trouble remained untouched. I have accordingly dealt with this item in the separate equipment bid (see item 26: rht traps).

Yours sincerely,
Professor Suckling

LETTERS TO THE EDITOR

Wrong idea about architectural monopoly

Sir, - Brian Anson (deliberately?) misreads the outsider when he attributes monopolistic powers to the Architects' Registration Council and the Royal Institute of British Architects (RIBA). The practice of architecture or the provision of architectural services is in no way restricted by ARCUK, merely the use of the title "architect". Indeed, the provision of architectural services by building technicians is a major threat to the architect who has qualified through a seven-year training.

If it were not for the registration Acts there would be no schools of architecture with full-time students. The medical analogy used by Anson is therefore tenuous since the medical profession does have a monopoly on medical services; no one wants to be treated by a "quack". Also the idea that access to an architect's services is a "right" for all sections of society regardless of ability to pay, on a par with medical services, is equally tenuous. While everyone has a body which from time to time goes wrong, needing medical attention, only a minority will build new or extend an existing building. Everyone, of course, has a need for shelter. This can be provided by builders, and indeed recent polls show that council tenants prefer spec builders' house designs to those of their councils' architects (which might argue for further cuts in local government offices).

The architect neither provides bricks and mortar nor controls availability of building land, he merely shapes a smallish part of the built environment. Less than 50 per cent of all building in the UK is architect-designed, and only slightly more than 60 per cent of all housing. Thus the architectural profession is far from having a monopoly. Between one half and one third of all architects in the UK (and there are 26,000) are employed by central and local government. This makes non-sense of Anson's statement that

schools of architecture train their students only for private practice. It may be that less talented architects, or those with less stamina and drive, gravitate to the public sector, and hence it may enjoy less esteem in the profession, but that is quite another question.

The alleged policy of restriction of entry to the architectural profession pursued by the RIBA must be deemed a total failure, since last year more students than ever before entered the schools of architecture and graduated from them. Humble origins have never been an obstacle to advancement in the profession in the case of a talented individual. It is true that the RIBA has pursued a policy of full-time degree courses, in universities and polytechnics, and of closing down part-time and evening courses. This was more a product of the post-war grants system and the expansion of higher education and full-time degree courses than of selfish interest.

Would Anson like to see working-class students still qualifying by seven to nine years at night classes after a full day's work in a drawing office? That was the system that the RIBA got rid of. Now that the bulk of schools of architecture are in polytechnics offering CNA degree courses, the CNA is a much more powerful controlling body on education. Since my claim that the CNA is controlled by the RIBA would be absurd, Anson has omitted any mention of the CNA from his polemic, as this would have been inconsistent with his conspiracy theory.

Throughout history architects have been at the service of those who can commission them, often the rich and powerful. The fact that in different epochs the architect has enjoyed the patronage of Popes, kings, dictators, totalitarian governments of the extreme right and left, corporate capitalism, the Welfare State, and wealthy individuals, is something the architect can do nothing about. Unlike other

artists, such as the painter who can work in a garret with few materials, the architect can only realize his art if someone else asks him to and picks up the bill. When could an architect ever turn down a commission because the client was too wealthy or too powerful?

As the late Sir Basil Spence put it (*Guardian*, October 21, 1970): "The architect is a servant, a tailor who cuts and measures the thin chap or the fat chap and tries to make him comfortable. . . he is not a reformer." The architect is merely a superior form of craftsman who may occasionally raise his craft to the level of art. Mr Anson's quarrel is with the present nature of society, which he wishes to see reformed. Why then make the RIBA the whipping boy for the ills of society as he sees them?

Anson also puts forward the curious proposition that the poorer sections of society might justifiably withhold that element of their taxation which goes towards maintaining schools of architecture. Leaving aside the inconvenient fact that there is probably no net outflow of taxation from the poorer sections after offsetting supplementary benefits and rebates etc., if the proposition were accepted where would it end? The poor could argue convincingly that they benefit even less from schools of art and departments of archaeology, classics, history, English literature, and most of the institutions purveying "high culture." Clearly Oxford and Cambridge would be high on Anson's "hit list". It would be interesting to know what Anson is actually for among our present-day institutions; or are they all to be swept away by regression to the lowest common denominator?

Yours faithfully,
L. A. WHITE
69 Evelyn Gardens,
London, S.W.7

Nuclear argument

Sir, - As a member of the AUT, I was dismayed to read your report of the proposal to commit that body to an agitation in favour of unilateral nuclear disarmament. It would be difficult to conceive of anything more likely to bring the universities into public contempt, at the very time when they need all the public goodwill they can get.

Those outside the universities may not readily understand that there is no reason to assume that a literary critic, however perceptive, or a linguistic philosopher, however sharp-witted, or even a distinguished nuclear physicist, can be relied upon to possess the merest shred of practical common sense, let alone any depth of understanding of international relations and of the problem of national defence.

On the other hand, it is easy to overlook the fact that most academics are sensible people, far too sensible to be left-wing activists. Unfortunately most of us are too preoccupied with our own work to take much interest in the activities of the AUT, with the result, which is so familiar in other trades unions, that policy is made by a small proportion of the total membership.

It is therefore quite possible that the proposed resolution will be carried. But I sincerely hope that there are enough sensible people on council to throw it out, because if it is passed it will have two and only two consequences. The first will be to damage the universities by alienating goodwill.

The second will be to encourage the hard-liners in the Kremlin to think that Britain has become so soft-centred that they can afford to be indifferent to her views about Afghanistan, or Poland, or anything else, and to lead them to suppose that if they resort to intimidation and extortionate demands, she will respond by appeasement without limits. There could be no more counter-productive way of attempting to promote world peace.

Yours faithfully,
A. J. HARRIS
6 Cliffe Road, Barton-on-Sen,
New Milton, Hampshire.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

Clearing up myth about dustmen

Sir, - Did I detect an implication in Professor Taylor's article (April 24) that a senior lecturer aged 47 should not become a dustman. As a lecturer who at about that age and 15 years after first graduating did become a dustman temporarily I speak with some authority on the subject. Those who supply grants for doctoral theses regard three years as the limit and those who examine sociology degrees at least regard, rightly in my opinion, three years as too little.

So there was need of further funding. Hence the time in a waste disposal position, only we called it "technical services" and we were "environmental technicians". I duly graduated from the brush and handcart to the back of the bin lorry, and was eventually given a little trolley of my own with which to wheel bins down alleys. The task being finished around midday I jumped into my car (dustmen go to work in cars, as I am sure Professor Taylor is aware), went home and resumed work on the thesis.

But I am sure Professor Taylor was not intending any such implication. For one thing it would imply value judgments; for another it would be extending dustmen less than senior English lecturers.

But this raises a crucial question. What right have those who happened to specialize in some recondite subject of dubious public utility to have job security for life when there is no longer an effective demand for their specialization? To give more point to the question I may add that I specialized in the sociology of the Catholic Church in Ireland in the nineteenth century, a topic of extreme relevance to the disturbed condition of Ulster at the moment. Yet I am still unemployed, and researching another book on the subject on £20 a week supplementary benefit.

I am not making the point, though perhaps others might make it, that lecturers in Elizabethan English should be sacked, and room made for lecturers of more recent or more relevant topics. The point I am making is that there ought to be a kind of market for subjects. When a subject is no longer saleable it should be scrapped, and I recommend street sweeping as an appropriate and dignified occupation for those who still wish to pursue the study of practical common sense, let alone any depth of understanding of international relations and of the problem of national defence.

Yours sincerely,
DESMOND KEENAN,
78 Dartmouth Road, London NW2.

Sir, - Edward Stamp's article on the accountability world (April 24) is so incomplete as to mislead seriously potential entrants to the profession. To discuss accountability in terms of the Chartered Institutes and the universities, with only a passing mention of the other major institutions which handle the majority of inspection in the subject, is bound to result in a distorted picture. Both the CIPFA and the Cost & Management Accountants have distinct outlooks and policies of their own which have contributed a great deal to such innovative developments as an otherwise conservative profession has felt able to undertake. The remaining smaller bodies are merely seeking to follow the path which the Chartered Institutes pioneered, but would now like to claim to them.

Perhaps the real reason for the high failure rate of graduates and others who leave the universities to seek employment in the chartered professional bodies, and those of professional bodies, is that they are so preoccupied with their own work to take much interest in the activities of the AUT, with the result, which is so familiar in other trades unions, that policy is made by a small proportion of the total membership.

It is therefore quite possible that the proposed resolution will be carried. But I sincerely hope that there are enough sensible people on council to throw it out, because if it is passed it will have two and only two consequences. The first will be to damage the universities by alienating goodwill.



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The overseas student question

The Overseas Students Trust has chosen a timely moment for the publication of its book on the ramifications of the Government's full-cost fees policy. Its comprehensive examination of the issue coincides with a new bout of pressure being brought to bear on ministers to soften their line, at least for the poorer countries.

Last week's deliberations by Commonwealth representatives provided the latest indictment of the policy, which is now spreading to other governments, threatening the traditionally international nature of the academic community, the progress of development in some parts of the Third World and the very survival of some institutions. Two Commons Select Committees are soon to return to the theme and will find little to suggest that their earlier criticisms were unwarranted.

The Overseas Student Question will satisfy the M.P.'s stated desire for more information on the issue but may also convince them that little else has changed since their inquiries. It will also leave readers under no illusions about the complexity of the problem, which cannot be seen simply in terms of crude average costs.

Whether or not Professor Mark Blaug is right that foreign students are more expensive than even the Department of Education and Science estimates, there is more than enough evidence to show that a variety of factors (financial and otherwise) need to be taken into consideration in setting fees. In any case, Professor Blaug's "balance sheet" which is a great deal more specific on the costs associated with overseas students than

the benefits, will undoubtedly be challenged as unduly pessimistic.

His findings, backed up by an exhaustive and highly technical analysis of marginal costs, will be seized upon by those anxious to justify existing policy. But more economics cannot do this, as Professor Blaug himself concedes in the book. Recent representations from Nigeria and threats from Malaysia have made it clear that students' fees stir deep feelings elsewhere in the world, if not at home.

The problem is how to satisfy Britain's criteria without restarting the open-ended subsidy which has now surely gone for ever. Professor Peter Williams and other participants in talks sponsored by OST plump for more scholarships, rather than quotas or differential fees. The alternatives are thought unnecessarily bureaucratic and expensive to operate.

Like the two Select Committees, they believe that overseas students should be subsidized from the aid budget, satisfying Britain's obligation without distorting the cost. It is a logical enough solution, despite the arguable case that the DES should have some interest in the formulation of policy, and one which would have attractions for the Government, should it decide that some mitigation is required. But it would be a course of action carrying obvious drawbacks.

The most glaring is the state of the aid programme. Under the Conservatives it has declined faster than most areas of Government spending, while within the programme itself higher education has been among the worst hit spheres of activity. It would hardly

be the psychology of their attackers in order to prepare the best possible defence. If the administration feels that federal support for social research must be halved merely because its results are not sufficiently important to justify the present level of government expenditure, then an educational approach is called for.

Mr Reagan's advisers must be reminded of the contributions that economic, social and behavioural research have made to the performance of business corporations and governments around the world. They must be told that investment in the natural sciences is not necessarily more likely to provide a long-term economic payoff than (usually cheaper) research projects in the social sciences.

But the defenders of the social sciences should not rely solely on their potential economic benefits. For that argument can lead governments to put too much emphasis on the "harder", more applied fields, like management and business studies, and starve basic sociology and economics.

Some of Mr Reagan's budgetary advisers assert glibly that worthwhile scholarship in the social sciences will find support from private corporations and foundations. If the government pulls out, this is easily exposed as a fallacy. After inflation, the real income of most foundations has fallen over the past decade and they are in no position to take on significant new commitments. Some businesses do indeed have additional funds to distribute to universities, but they prefer to give them to scholars who will work along the lines they want. Corporations cannot replace the National Science Foundation (NSF) as a politically neutral source of support for objective fundamental research.

The Oxford entrance exam

Over the years the special entrance exam used by Oxford and Cambridge has been subject to a steady stream of criticism. The complaints usually centre on two strands, that the design of the exam favours candidates from independent schools, and that many schools in the maintained sector do not have the resources to provide the extra tuition needed for Oxford entrance. This is the argument, school traditionally taken in the term after A-levels. Thus, it is argued, school-leavers from state schools are doubly disadvantaged.

Both universities have in fact worked hard to eliminate or reduce all possible barriers to candidates from the maintained sector. One measure of achievement is that Oxford for the first time this year accepted more students from state schools than from public schools. This year almost 51 per cent of those accepted came from the maintained sector, and 47 per cent from the independent sector. But what is more, the school which Oxford selects for its candidates, and that no good candidates are discouraged from trying.

There are now four routes into Oxford. First, the entrance exam taken in the seventh term of the sixth form. Secondly, more and more candidates are taking entrance in the fourth term and are assessed accordingly. This avoids all the problems of staying on for a seventh term. Thirdly, candidates can achieve a set A level in the subject, and then take the entrance exam in the term after A-levels. This is the most controversially, based on a stern interview and the minimum matriculation requirements of two E grade A levels.

The unconditional offer was pioneered by Hertford College in 1965, and is to be used, to allocate up to one-third of the college's places in future. Two more colleges, Balliol and Oriel now plan to introduce unconditional offers in the autumn. Balliol's offer will be restricted to students from schools which are clearly unable to provide special tuition for the Oxford exam. Balliol has no need to worry

about its academic standards. But as a progressive college it is determined to cast its net as wide as possible, even if it already has plenty of good fish.

The story at Oriel is somewhat different. Oriel, the only college still restricted to men only, last year found applications had dropped significantly and that it had come bottom of the Norrington table, a league measuring a college's success in finals. The college is naturally keen to attract more good students.

Understandably other admissions tutors are watching these reforms with caution. They do not want to open the floodgates and undermine the entrance exam which they regard as still the best test of a candidate's potential. Many schools can produce students with excellent A levels; Oxford is looking for a little bit extra. Whatever the motivations of the two colleges, progressive or defensive, these are reforms to be welcomed. They are also another rebuff to the critics who consider Oxford still to be an isolated and elitist centre of excellence.

A return to the basics



Patrick Nuttgens

The Simple Life is the title of a captivating book by Fiona MacCarthy published a few months ago. In its newspapers and journals, readers of this column may be reassured that this will not be another review. Set in the book which I could hardly put down) I propose to think about that fascinating and elusive concept. History is enriched by stories of people wanting to recapture the simple life and constantly missing it.

The subject of Fiona MacCarthy's book is a colourful case in point. C. R. Ashbee was one of the idealists of the turn of the century, a period rich in idealism - or, as some people considered them, cranks. He had with admirable dedication and single-mindedness set up in Whitechapel in 1888 the Guild and School of Handicraft. The school and workshops were run independently, teaching skills and producing work for young people. It was also a cooperative, an experiment in social democracy.

What made the experiment famous and led ultimately to its failure was the move of the Guild to Chipping Campden in the Cotswolds in 1902. Ashbee managed to move 150 people - craftsmen and their families - into that wonderfully underdeveloped little town which had once been a prosperous centre of the wool trade and had now become rather desolate. It was a small town of quite stunning beauty. I have heard elderly people talking about what it was like in the early years of this century. It is a beauty spot today; then untouched by human hand for many years, it must have been spectacular. Ashbee's excitement is infectious and the book communicates it.

Within five years the Guild failed. It went into voluntary liquidation in 1908 and gradually dispersed, leaving a few families behind, one of which is still there, in the old Silk Mill doing metalwork. An exhibition of the artefacts produced by the Guild was opened in Cheltenham in January, is still on in Sheffield and then moves to London. Honesty compels me to admit that it is not very exciting. What is exciting is the evidence of people seeking - and for a time finding - a new life: a complete one, which if you went to the Campden School of Arts and Crafts founded by Ashbee included training in self-sufficiency, physical culture and culture. There were of course internal tensions. But the Guild founded not on those or its admirable programme (how healthy for today's art students to do physical jerks in straight rows) but on its failure to sell the goods. 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